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Municipal/Industrial Strategy for Abatement

ACUTE LETHALITY DATA FOR ONTARIO'S ORGANIC CHEMICAL MANUFACTURING SECTOR EFFLUENTS COVERING THE PERIOD FROM OCTOBER 1989 TO MARCH 1990

Environment Ontario

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ACUTE LETHALITY DATA FOR ONTARIO'S ORGANIC CHEMICAL MANUFACTURING SECTOR EFFLUENTS COVERING THE PERIOD FROM OCTOBER 1989 TO MARCH 1990

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SUMMARY

Under the MISA program, the Organic Chemical Manufacturing Sector was required to monitor its discharges (both process and cooling waters) for acute lethality to trout and to *Daphnia magna* by conducting laboratory toxicity tests. This requirement was based on provisions of the Ontario Environmental Protection Act which allowed the Ministry to write regulations requesting persons responsible for sources of contaminants to monitor, record and report to the Ministry. Specific details on the toxicity testing requirements may be found in the General Effluent Monitoring Regulation (Ontario Regulation 695/88) and the Effluent Monitoring Regulation For The Organic Chemical Manufacturing Sector (Ontario Regulation 209/89). For the purposes of these regulations, organic chemical manufacturing refers to the manufacture of chemicals based on carbon and the plants, within this industry, can be grouped into three classes of products; organic chemicals, plastics, and synthetic fibres. An overview of this sector in Ontario is described in the publication "The Development Document For The Effluent Monitoring Regulation For The Organic Chemical Manufacturing Sector. Env. Ontario 1989". Information collected under the MISA effluent monitoring program will be used toward the development of compliance limits for effluent acute toxicity. The following data report presents the toxicity results of this monitoring along with the results of audit samples that were tested at the Ministry's laboratory in Rexdale. In addition, toxicity tests of some intake waters were also submitted by industry and these have been included in this report.

The data collected during the first six months of monitoring indicate the majority of organic chemical manufactures' effluents were not acutely lethal. Over 80 % of the samples tested for trout toxicity and 60 % of the samples tested for *Daphnia* toxicity were determined to have been non-lethal by standard testing methods. Most of the samples that were determined to have been acutely lethal to trout and/or *Daphnia* were collected from sites at the following six companies: Cornwall Chemicals Ltd. (Cornwall), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Kingston), Du Pont Canada Inc.(Maitland), GE Plastics Canada Ltd. and Uniroyal Chemical Ltd. (Elmira). All these companies reported that one or more of their discharges were acutely lethal the majority of the time when sampled. The Figures 1 to 9 present selected toxicity data (LC50s) for trout and *Daphnia*. The plots are for those discharges that had some toxicity to both animals. Note that low values of LC50 mean high acute toxicity.

In general, toxicity tests are used as a rapid technique to assess the potential impact of complex effluents on the aquatic environment. In acute lethality toxicity testing, aquatic organisms are exposed to undiluted effluent, and several effluent dilutions, for a fixed period of time. Trout tests use a 96 hour exposure regime while *Daphnia* tests run for 48 hours. In both tests, the number of organisms which have died would be the measured parameter. The LC50 or the estimated concentration of effluent that causes 50 % mortality is generally used as the quantitative measure of toxicity. Non-lethal effluents are considered less likely to produce adverse impacts in the environment after dilution.

The Organic Chemical Manufacturing Sector Regulation required dischargers to collect information on their operations, and monitoring data from their effluents, and to provide this information to the Ministry. The timing of toxicity sampling was arranged to coincide with chemical characterization, also required under this regulation. The frequency of sampling was monthly for both toxicity test procedures on process effluents with the exception that if tests over three consecutive months showed insignificant mortalities with trout then in subsequent months a single concentration test may be used. For cooling water effluent, the required frequency of sampling and testing was quarterly. All acute lethality testing was conducted according to Ministry protocols (Protocol To Determine The Acute Lethality Of Liquid Effluents To Fish. Env. Ontario July 1983 and *Daphnia magna* Acute Lethality Toxicity Test Protocol. Env.Ontario April 1988).

The Organic Chemical Manufacturing Sector effluent acute toxicity monitoring originated sample results submitted for 58 sampling locations at a total of 27 companies. For the first six months of monitoring, starting in October 1989 and ending March 1990, 572 trout and *Daphnia* toxicity test results were submitted by the companies, and 54 audit tests were conducted by the Aquatic Toxicity Unit of Environment Ontario. BASF Canada Inc. (Arnprior), Du Pont Canada Inc. (Whitby), Guardsman Products (Cornwall), Morbern Chemicals (Cornwall), and Rohm and Haas Canada Inc. (Scarborough) were all brought under monitoring through regulation amendments after the initial promulgation date. Therefore, there were limited samples to review for these companies. BASF Canada Inc. (Sarnia), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Corunna and Maitland) and Esso Chemical Canada Ltd. (Sarnia) voluntarily submitted test results for tests conducted on intake water samples.

Of the 308 samples that were tested for acute toxicity to trout, 248 (80.5 %) were not acutely lethal. The effluent samples collected from 10 (37 %) companies were consistently non-acutely lethal. All the samples collected from cooling water discharges or from intake supplies were non-acutely lethal to trout. Companies included in this category are : AKZO Chemicals Ltd.(Sarnia), BASF Canada Inc.(Sarnia), Celanese Canada Inc. (Millhaven), Du Pont (Whitby), Esso Chemical Canada (Sarnia), Ethyl Canada Inc. (Corunna), Morbern Inc. (Cornwall), Novacor Chemicals Ltd. (Mooretown), Rohm & Haas Canada Inc. (Morrisburg) and Stepan Canada Inc. (Longford Mills). An additional 27 samples, 8.8 % of total, resulted in LC50s > 100 %. Many of these tests had only one fish die during the tests and might be interpreted as being not acutely lethal. Nine companies had one or more test result with a LC50 >100 %. This category included the following companies : Amoco Canada Petroleum Canada Ltd. (Sarnia), B.F.Goodrich Canada Inc.(Thorold), BTL Specialty Resins (Belleville), Canadian Oxy Chemicals Ltd. (Fort Erie), Chinook Chemicals Company (Sombra), Dow Chemical Inc. (Sarnia), Du Pont Canada Inc.(Corunna), Du Pont Canada Inc.(Maitland) and Uniroyal Chemical Ltd. (Elmira).

Thirty-three samples, 10.7 % of the total number of samples tested, were determined to

have been acutely-lethal to trout (96 hour LC50 <100 %). All the lethal samples were collected from 5 companies (19 % of total companies). This category included the following companies: Cornwall Chemicals Limited (Cornwall), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Kingston), GE Plastics Canada Ltd. (Coburg) and Polysar Ltd. (Sarnia). Polysar Ltd. had only one lethal effluent sample during the first six months of monitoring, while the other plants' process effluents were lethal the majority of the time when sampled. The most lethal samples were sampled from Courtaulds Fibres Canada (Cornwall), where the 96 hour LC50s ranged from 1 % to 61 %.

Of the 328 samples tested for acute toxicity to *Daphnia magna*, 198 samples (60.4 %) were determined to have been non-acutely lethal. The effluents from AKZO Chemicals Ltd., B.F.Goodrich Canada Inc., BASF Canada Inc., Canadian Oxy Chemicals Ltd., and Novacor Chemicals Ltd. were not acutely lethal to *Daphnia*. An additional 69 samples (21.2 %) had 48 h LC50s >100 %. Many of these samples had only one neonate die during the test, and might be interpreted as being not acutely lethal. Fourteen samples elicited an unusual toxicity response, in which the effluent became more toxic when it was diluted.

Fifty-one of the 328 samples (15.5 %) were acutely toxic to *Daphnia*, generating 48 h LC50s <100 %. All the lethal samples were from ten companies, and 36 of 51 toxic samples were from four companies (Courtaulds Fibres Canada, Cornwall Chemicals Ltd., and Du Pont Canada Inc. plants in Kingston and Maitland). The effluents from Courtaulds Fibres Canada process outfalls #100 and #300 were consistently among the most toxic in this sector. The LC50 values for these outfalls range from 0.9 % to 7.6 % effluent. The cause of toxicity is partially due to the extremes in pH found at these outfalls. Process effluent #100 consistently has a pH < 2 , and process effluent # 300 consistently has a pH > 12.

For several of the toxic samples, a quick review of the matching analytical chemistry monitoring data has revealed some probable causes of the observed acute toxicity. Where this was possible, a brief explanation to the probable causes of toxicity has been described below. However for some effluent samples, which were consistently lethal, such as the effluents from Uniroyal, and Dupont Kingston, the causes of toxicity were not as conclusive, and will need the complete year of monitoring data before an assessment can be made. It is clear that Courtaulds Fibres effluent toxicity is associated with the effluents extreme pH conditions, and a mixture of several other toxic contaminants. One effluent was consistently measured to have a pH reading of 1.4, and another discharge was measured at 11.8. Water exhibiting a pH in the range between 6.5 and 8.5 is normally considered of good quality for fish health. In addition to the extreme pH conditions of Courtaulds effluent samples, which alone could have accounted for the observed mortalities, the bioassay fish were challenged also by high concentrations of sulphide, zinc, lead, nickel and mercury. These contaminants were consistently measured in Courtaulds' effluent at lethal or sublethal concentrations. Cornwall Chemical's process

effluent samples were consistently lethal to both trout and *Daphnia*. On the days where the effluent was lethal, high concentrations of sulphide and carbon tetrachloride were measured. Sulphide and carbon tetrachloride concentrations reached as high as 15 ppm and 20 ppm respectively. It is probable the hydrogen sulphide and carbon tetrachloride content in the effluent contributed to the observed lethality. Of all the intake water samples tested, only one source proved lethal. The Dupont Maitland intake samples for the months of November, January and February were determined to have been lethal to *Daphnia* and/or trout. The lethality is believed to have been caused by the high residual chlorine content. This is consistent with Dupont's practice of chlorinating their intake water prior to use. Dupont Maitland discharge water was also determined to have been lethal for the October and November samples. The effluent toxicity was due in part to the elevated levels of copper, zinc and ammonia. The combined process effluent samples from GE Plastics, Coburg were found to have been consistently lethal to test fish and not lethal to the *Daphnia magna*. High concentrations of cyanide and ammonia were measured in the effluent when lethality occurred, and could be considered as contributing factors to toxicity. *Daphnia*, like invertebrates in general, are less sensitive to ammonia and cyanide. This would account for the different observed effects between the two test species.

In general, the reporting of toxicity data by the industries went smoothly. The quality of the toxicity results and presentation has been good. Where the Ministry requested industry for data resubmission to correct data entry errors and/or for additional information, the companies complied favourably. Where Ministry audit samples were collected and tested, the results were consistent with results submitted by industry. The following portion of this report presents the acute lethality data as submitted by industry, grouped by company. A summary of each company's results precedes each grouping of individual results. The comment fields on individual Toxicity Test Reports were entered by the industry's laboratory performing the tests, and should not be expected to be consistent across samples and do not represent the views of the Ministry.

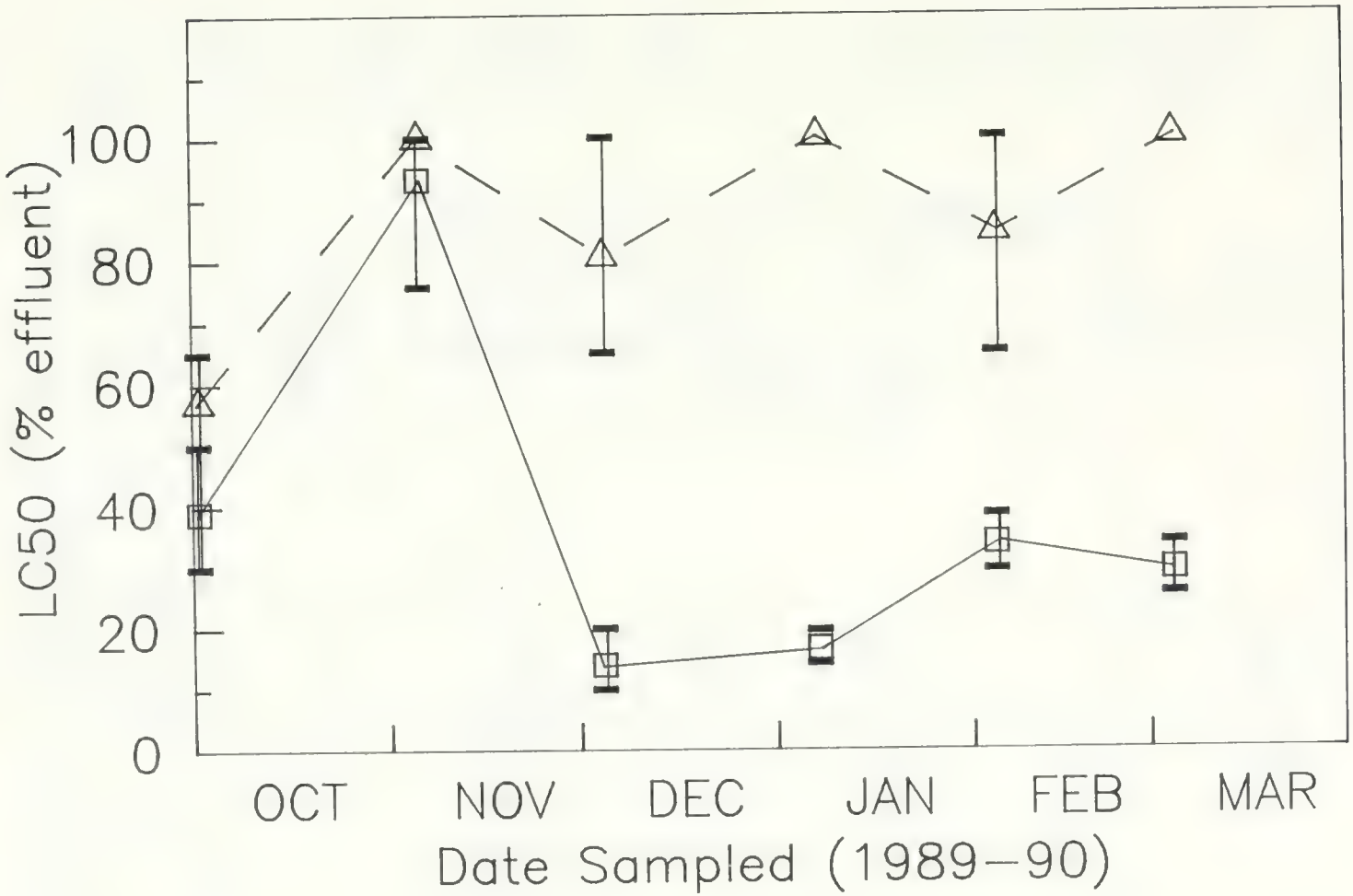

Figure 1. Acute Toxicity of Effluent Samples from outfall #100 at Cornwall Chemicals, Cornwall. (△ Trout □ Daphnia magna)

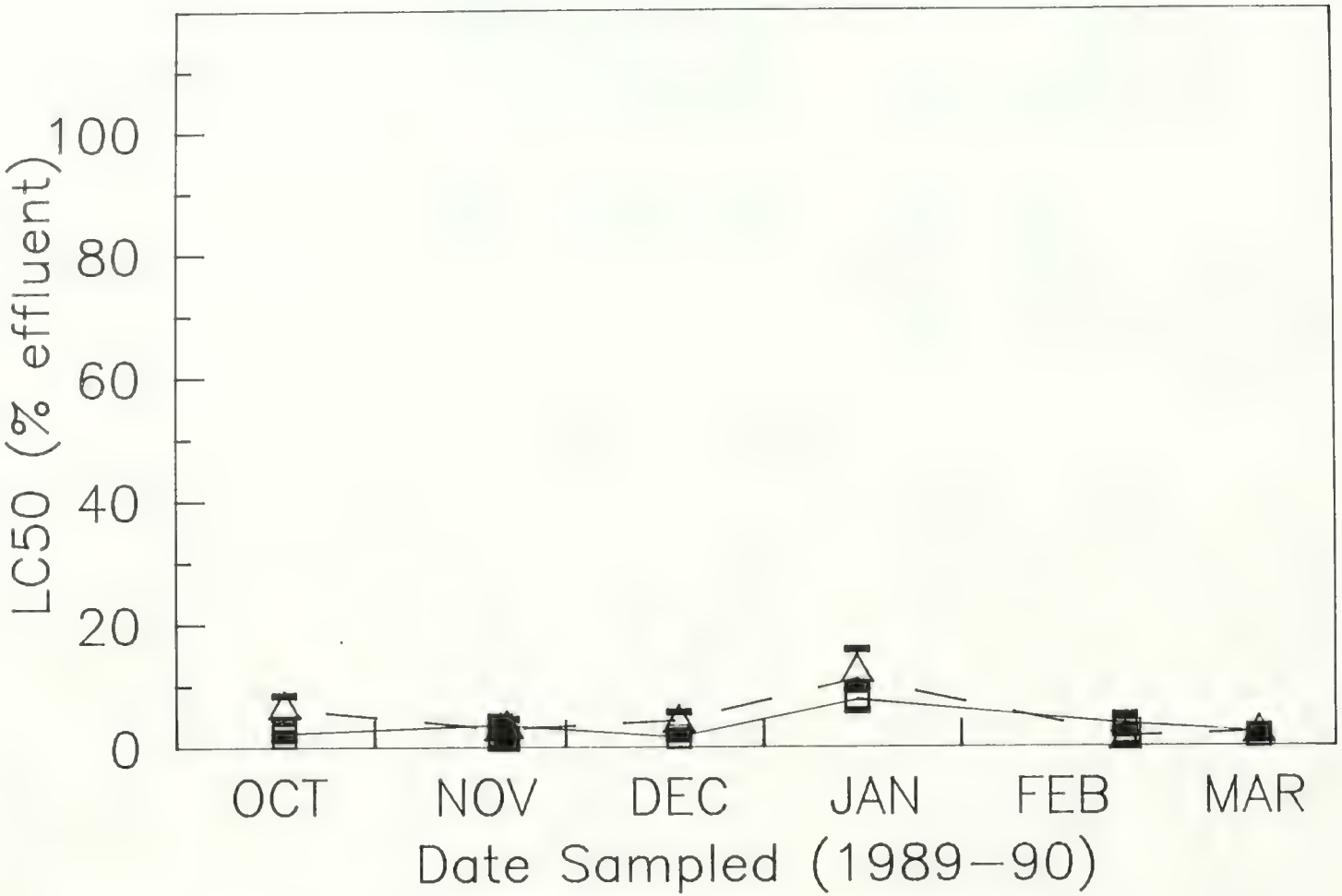

Figure 2. Acute Toxicity of Effluent Samples from outfall #100 at Courtaulds Fibres Canada, Cornwall. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

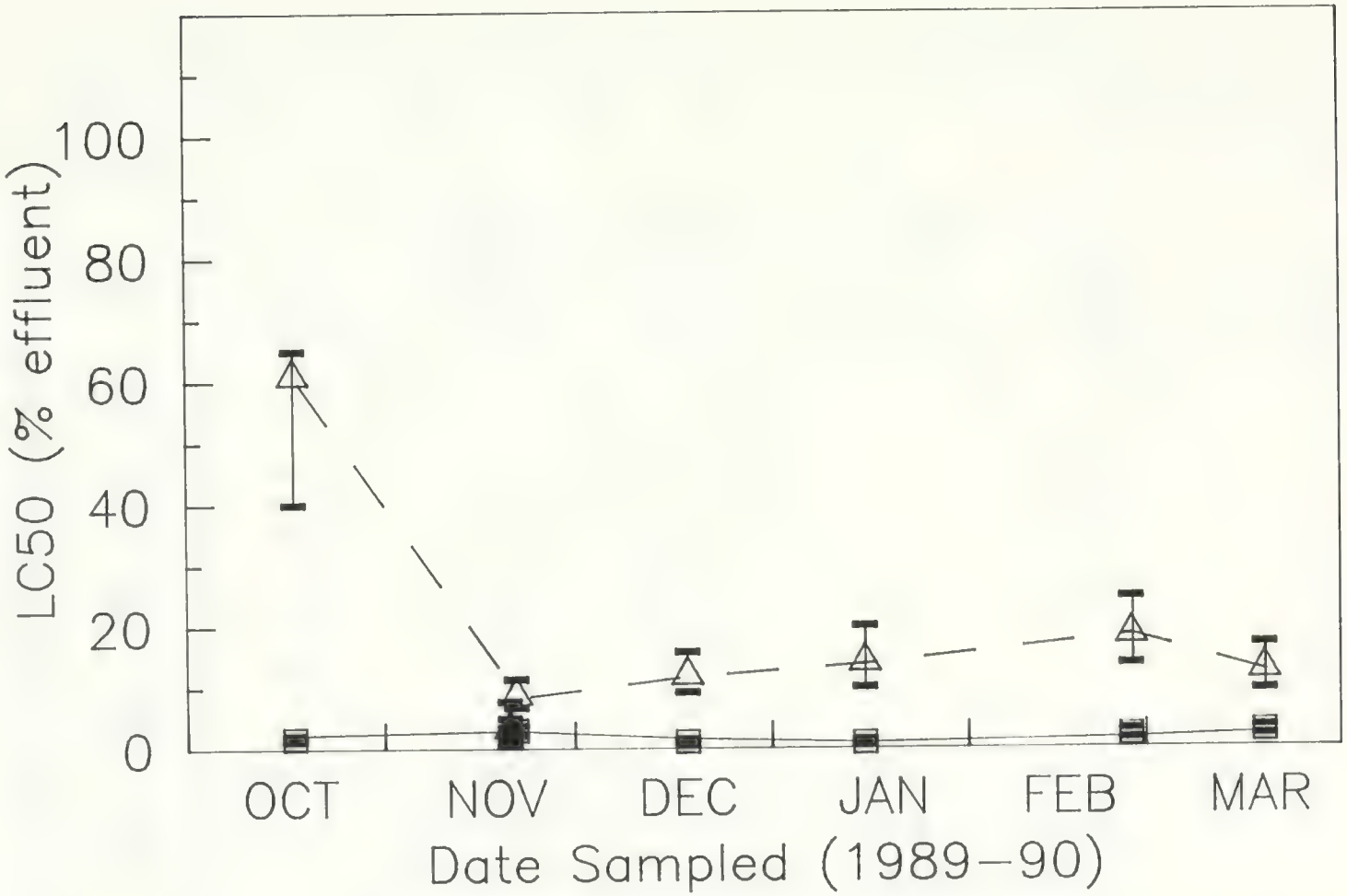

Figure 3. Acute Toxicity of Effluent Samples from outfall #300 at Courtaulds Fibres Canada, Cornwall. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

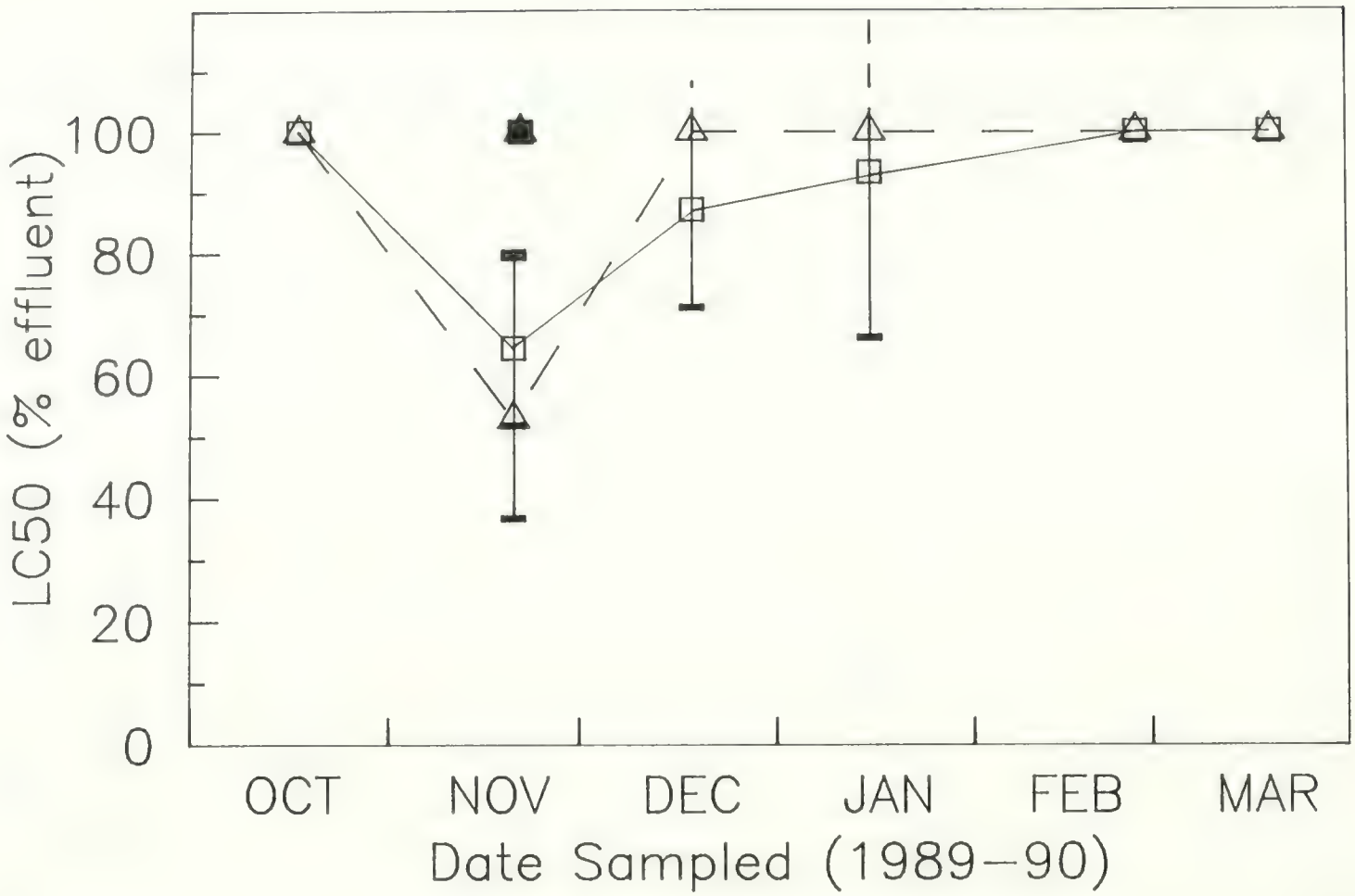

Figure 4. Acute Toxicity of Effluent Samples from outfall #700 at Courtaulds Fibres Canada, Cornwall. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

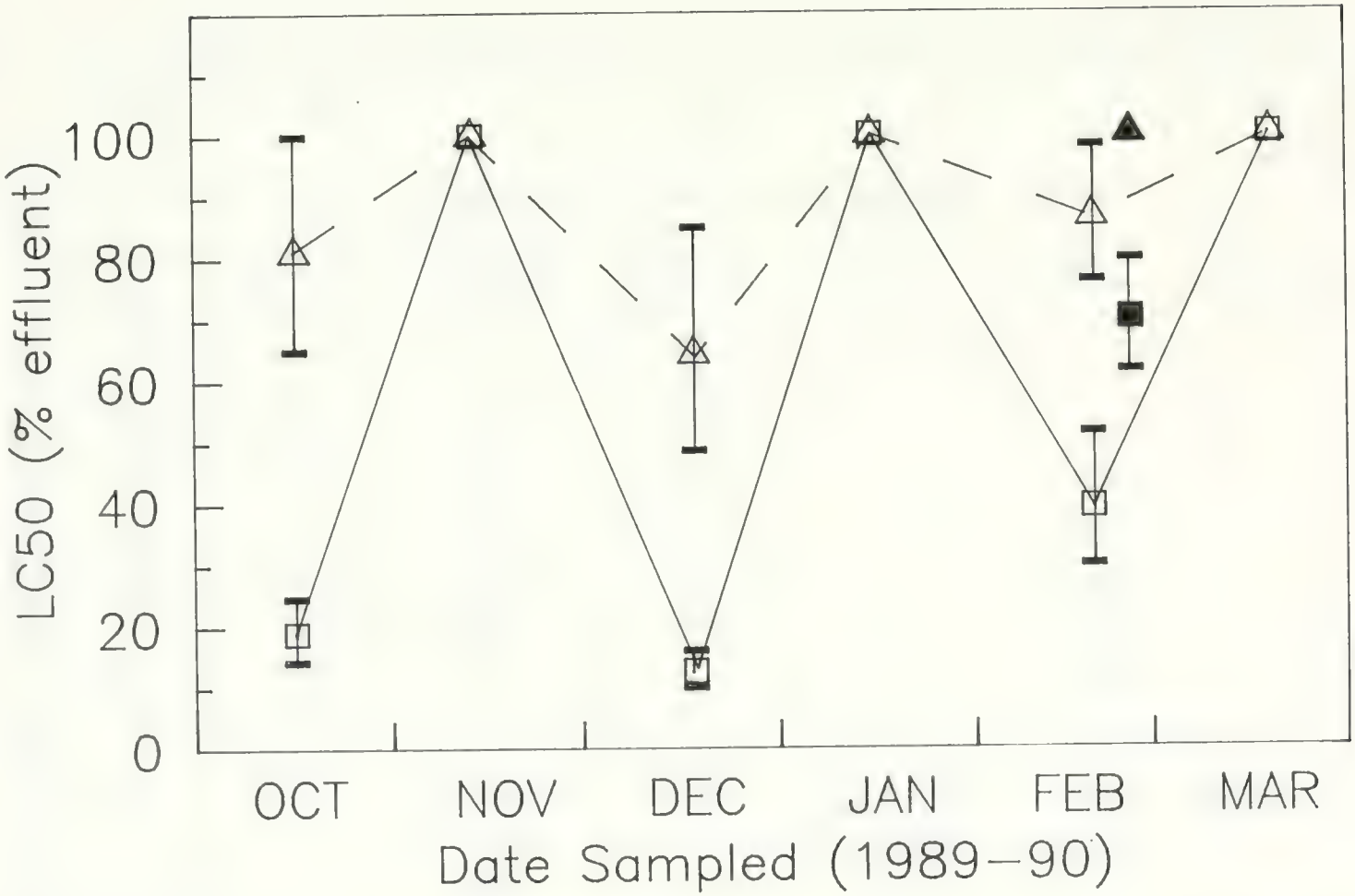

Figure 5. Acute Toxicity of Effluent Samples from outfall #700 at DuPont Canada Inc., Kingston. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

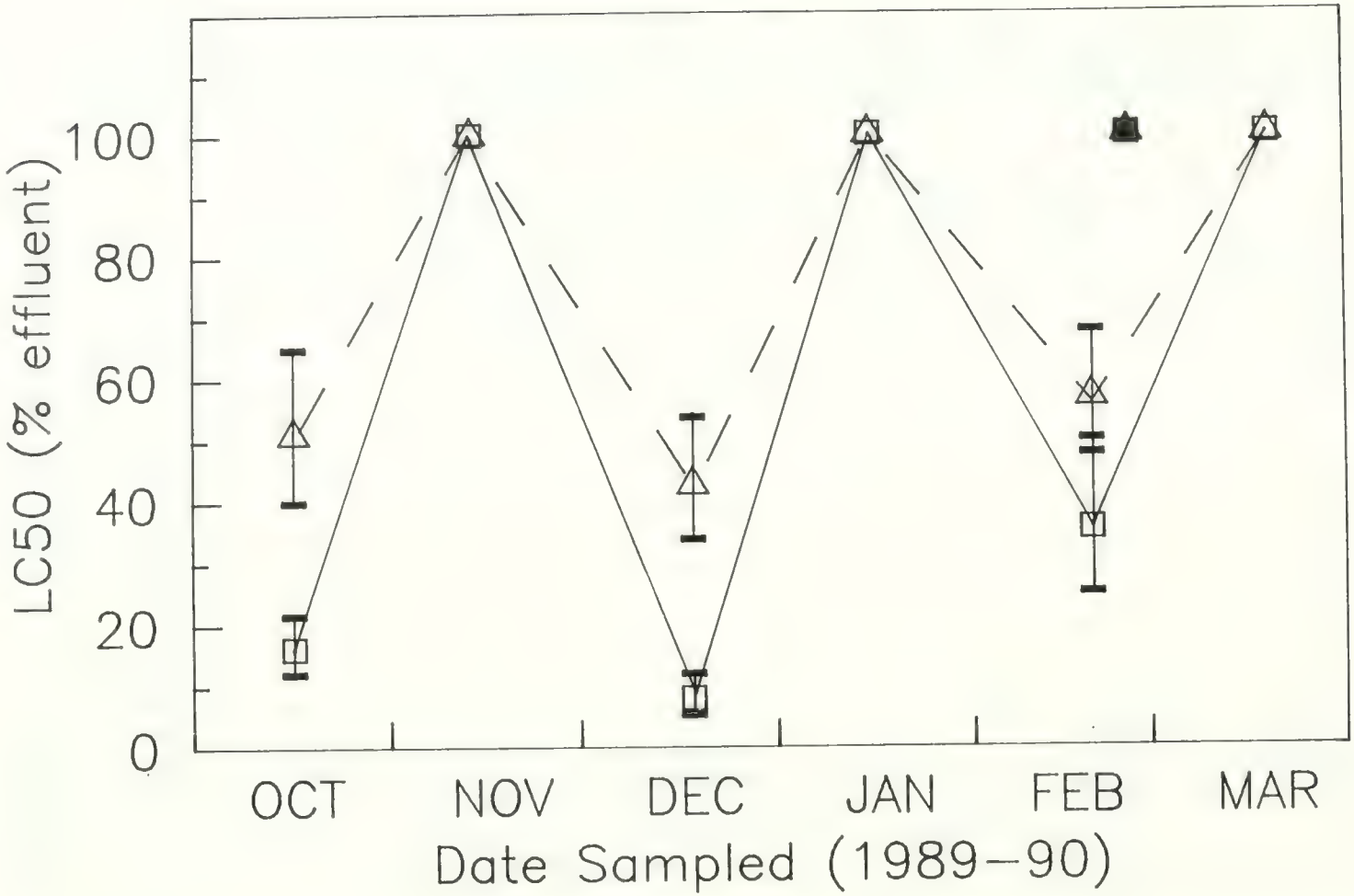

Figure 6. Acute Toxicity of Effluent Samples from outfall #1100 at DuPont Canada Inc., Kingston. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

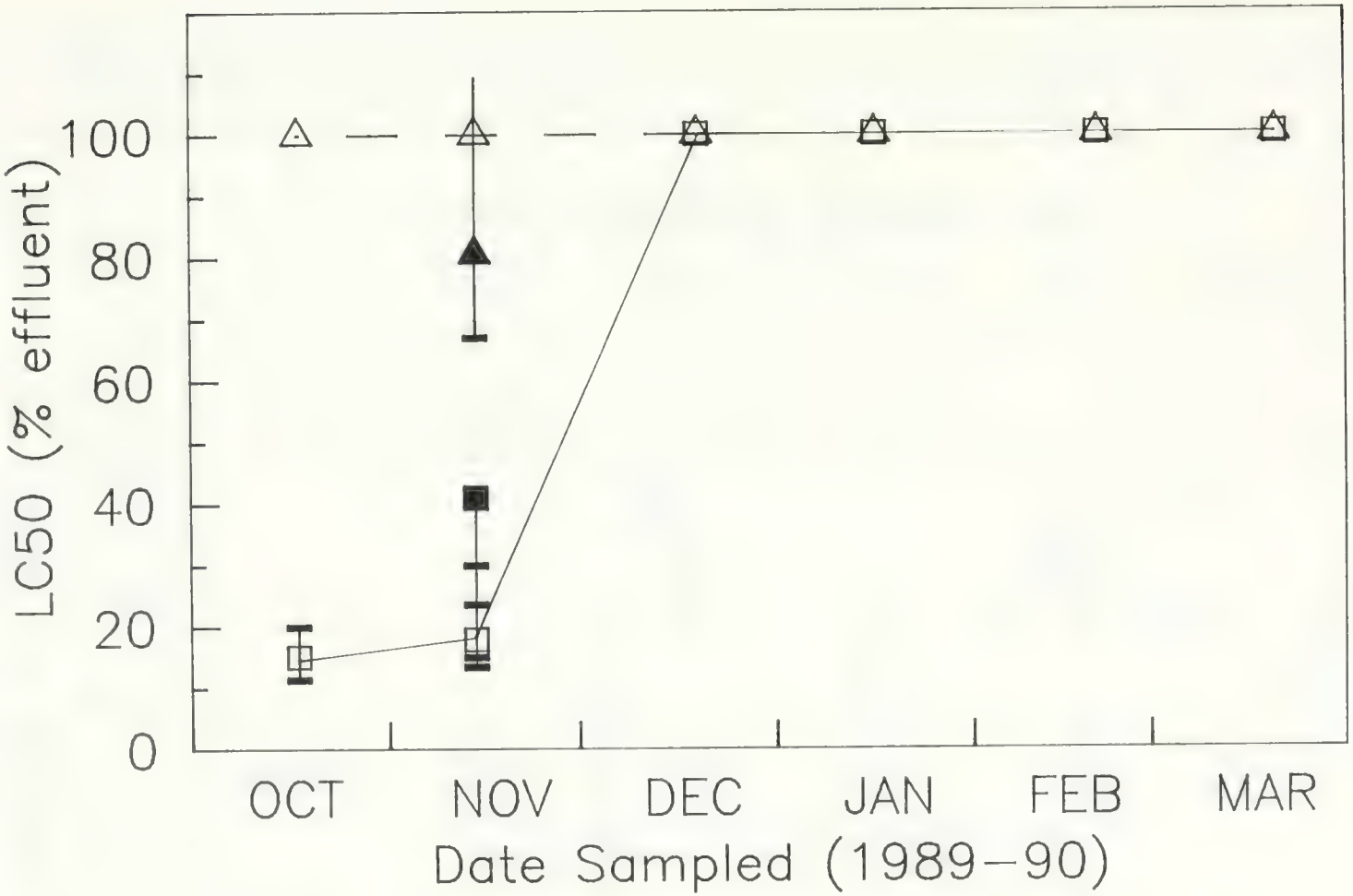

Figure 7. Acute Toxicity of Effluent Samples from outfall #1100 at DuPont Canada Inc., Maitland. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

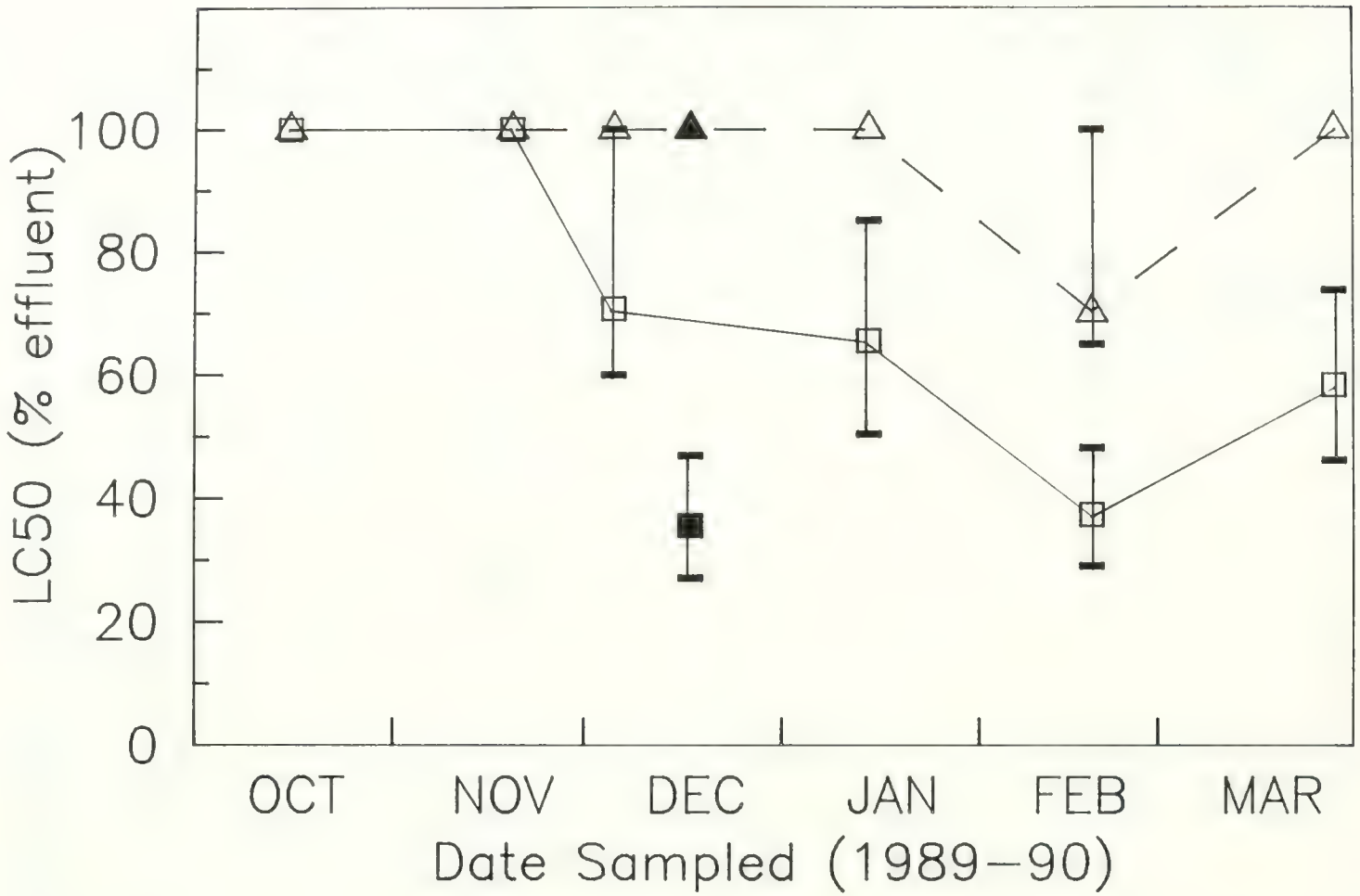

Figure 8. Acute Toxicity of Effluent Samples from outfall #600 at Uniroyal Chemicals Ltd., Elmira. (△ Trout □ Daphnia magna) Solid symbols are MISA audits.

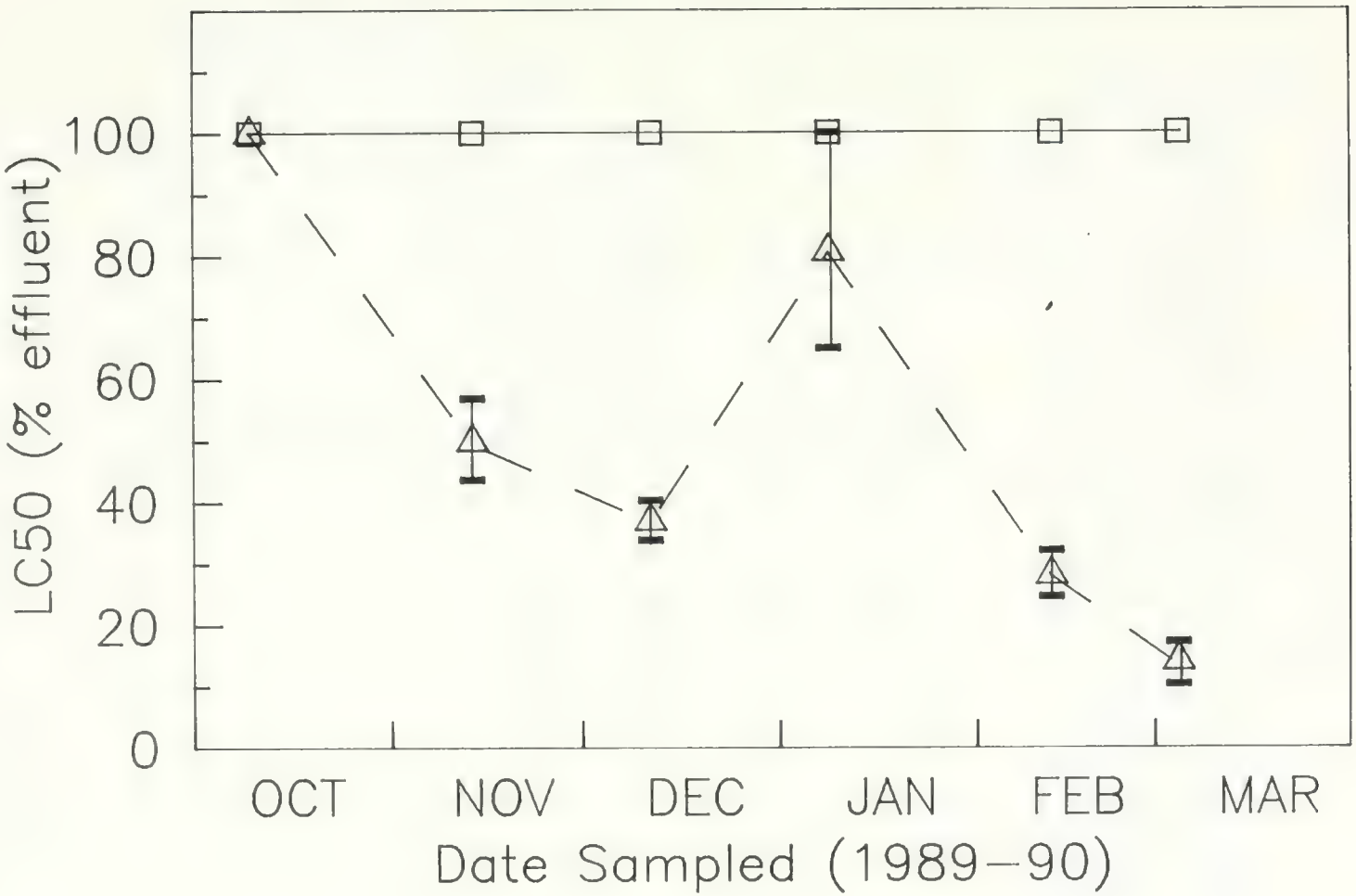

Figure 9. Acute Toxicity of Effluent Samples from outfall #100 at G.E. Plastics Canada Ltd., Cobourg. (△ Trout □ Daphnia magna)

COMPANY: AKZO Chemicals Ltd., Sarnia
(28690006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for three trout bioassays, conducted on cooling water samples collected between October 1989 and March 1990, were provided by AKZO Chemicals Ltd. All three cooling water samples were determined to have been non-acutely lethal to test fish. An additional audit sample collected in December from the cooling water effluent was tested by the O.M.E. laboratory and was determined to have been non-acutely lethal.

OT cooling water

03890235 sampled: 10/28/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890121 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01890285 sampled: 12/07/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

05900028 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

storm water

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890235

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 10/28/89
Received : 10/30/89
Tested : 10/31/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890235

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.4
	O2 ppm	8.5					9.3
	Cond.	560					552
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
10	pH	7.8					8.5
	O2 ppm	8.2					9.5
	Cond.	528					519
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
20	pH	7.8					8.3
	O2 ppm	8.2					9.4
	Cond.	495					496
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
40	pH	7.8					8.2
	O2 ppm	8.4					9.3
	Cond.	432					437
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
65	pH	7.9					8.2
	O2 ppm	8.8					9.5
	Cond.	352					358
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
100	pH	8.1					7.8
	O2 ppm	9.2					9.2
	Cond.	231					242
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890121

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:55	48:25	72:55	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890121

TEST CONC. %		ELAPSED TIME 00:00	21:55	48:25	72:55	96:55
100	pH	8.0	7.8	7.8	7.8	7.6
	O2 ppm	10.5	9.7	9.0	9.9	9.8
	Cond.	265				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.9	7.8	7.8	7.7
	O2 ppm	10.3	9.9	9.2	10.0	9.9
	Cond.	169				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.8	7.8	7.7	7.6
	O2 ppm	10.1	9.7	9.1	9.9	9.6
	Cond.	167				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.8	7.8	7.7	7.6
	O2 ppm	9.8	9.8	9.2	10.0	9.8
	Cond.	166				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.8	7.8	7.7	7.6
	O2 ppm	9.8	9.6	8.8	9.9	9.9
	Cond.	167				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.7	7.7	7.7	7.6
	O2 ppm	9.8	9.8	9.1	9.8	9.6
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.8	7.7	7.7	7.5
	O2 ppm	10.0	10.0	9.2	10.0	9.8
	Cond.	165				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.7	7.7	7.7	7.5
	O2 ppm	10.2	9.8	9.1	10.1	10.0
	Cond.	170				166
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01890285

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Longlade
Date Collected : 12/07/89
Received : 12/08/89
Tested : 12/11/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	26:00	47:30	71:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890285

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	26:00	47:30	71:00	96:0
100	pH	7.0				7.5	7.8	7.7	7.7	7.
	O2 ppm	10.1				10.3	11.4	11.1	10.4	10.
	Cond.	170				160	160	165	170	17
	Temp(C)	14.0				14.0	14.0	14.0	14.0	14.
65	pH					7.7	7.8	7.8	7.8	7.
	O2 ppm					10.4	11.4	11.4	10.4	10.
	Cond.					190	195	190	200	20
	Temp(C)					14.0	14.0	14.0	14.0	14.
40	pH					7.7	7.8	7.8	7.8	7.
	O2 ppm					10.4	11.4	11.1	10.4	9.
	Cond.					215	210	210	220	22
	Temp(C)					14.0	14.0	14.0	14.0	14.
30	pH					7.6	7.7	7.7	7.7	7.
	O2 ppm					10.2	11.1	10.9	10.3	10.
	Cond.					220	215	230	230	23
	Temp(C)					14.0	14.0	14.0	14.0	14.
20	pH					7.7	7.9	7.6	7.8	7.
	O2 ppm					10.5	11.4	11.1	10.4	10.
	Cond.					230	225	245	260	26
	Temp(C)					14.0	14.0	14.0	14.0	14.
10	pH					7.7	7.9	7.7	7.8	7.
	O2 ppm					10.4	11.4	11.1	10.3	9.
	Cond.					255	250	250	260	27
	Temp(C)					14.0	14.0	14.0	14.0	14.
Control	pH					7.3	7.9	7.2	7.6	7.
	O2 ppm					10.2	11.3	10.7	10.3	9.
	Cond.					265	265	265	260	28
	Temp(C)					14.0	14.0	14.0	14.0	14.

MISA Trout

TOXICITY TEST REPORT Sample: 05900028

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 03:00	00:00	23:00	45:00	67:30	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
75		0	0	0	0	0	0
56		0	0	0	0	0	0
25		0	0	0	0	0	0
10		0	0	0	0	0	0
1		0	0	0	0	0	0
Control		0	0	0	0	0	0
Control		0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900028

TEST CONC. %		ELAPSED TIME 03:00	00:00	23:00	45:00	67:30	97:00
100	pH	7.9	7.7				7.7
	O2 ppm	8.8	9.4				9.3
	Cond.	200	167				165
	Temp(C)	20.0	15.0				15.0
75	pH		7.6				7.7
	O2 ppm		9.6				9.5
	Cond.		167				165
	Temp(C)		15.0				15.0
56	pH		7.4				7.7
	O2 ppm		10.0				9.2
	Cond.		165				169
	Temp(C)		15.0				15.0
25	pH		7.2				7.6
	O2 ppm		10.1				9.3
	Cond.		162				168
	Temp(C)		15.0				15.0
10	pH		7.2				7.6
	O2 ppm		10.2				9.4
	Cond.		162				170
	Temp(C)		15.0				15.0
1	pH		7.2				7.6
	O2 ppm		10.2				9.5
	Cond.		162				170
	Temp(C)		15.0				15.0
Control	pH		7.2				7.6
	O2 ppm		10.2				9.6
	Cond.		166				168
	Temp(C)		15.0				15.0
Control	pH		7.2				7.6
	O2 ppm		10.2				9.6
	Cond.		166				170
	Temp(C)		15.0				15.0

COMPANY: AKZO Chemicals Ltd., Sarnia (28690006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for three Daphnia magna acute lethality toxicity tests conducted on samples of once through cooling water collected between October 1989 and March 1990 were submitted by AKZO Chemicals Ltd. of Sarnia. Two samples were not acutely lethal to Daphnia, and one sample had one animal die in the 100% concentration during the test. One sample of this effluent was tested in the Ministry laboratory in December. It was not acutely lethal to Daphnia.

OT cooling water

03890235 sampled: 10/28/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890121 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02890285 sampled: 12/07/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900028 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

storm water

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890235

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 10/28/89
Received : 10/30/89
Tested : 10/31/89 at: 1315

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	1	1	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890235

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	7.9			8.1
	O2 ppm	9.4			8.4
	Cond.	300			297
	Temp(C)	20.0	20.0	19.0	19.5
6	pH	7.9			8.1
	O2 ppm	9.2			8.7
	Cond.	299			293
	Temp(C)	20.0	20.0	19.0	19.5
13	pH	7.9			8.0
	O2 ppm	8.8			8.8
	Cond.	297			289
	Temp(C)	20.0	20.0	19.0	19.5
25	pH	7.9			8.1
	O2 ppm	8.7			8.9
	Cond.	287			281
	Temp(C)	20.0	20.0	19.0	19.5
50	pH	8.0			8.1
	O2 ppm	8.7			8.9
	Cond.	270			264
	Temp(C)	20.0	20.0	19.0	19.5
100	pH	8.1			7.9
	O2 ppm	8.8			8.9
	Cond.	233			229
	Temp(C)	20.0	20.0	19.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890121

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1535

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:35	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890121

TEST CONC. %		ELAPSED TIME 00:00	48:35
100	pH	7.9	7.9
	O2 ppm	9.0	9.0
	Cond.	200	198
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	8.6	8.2
	Cond.	360	352
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	8.6	8.2
	Cond.	430	430
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	8.5	8.6
	Cond.	462	462
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	8.6	8.8
	Cond.	470	485
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	8.9	9.0
	Cond.	498	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890285

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Longlade
Date Collected : 12/07/89
Received : 12/08/89
Tested : 12/11/89 at: 941

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:39	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890285

TEST CONC. %		ELAPSED TIME 00:00	01:39	24:00	48:00
100	pH	7.6			7.7
	O2 ppm	9.9			8.1
	Cond.	201			209
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.8
	O2 ppm	9.4			8.1
	Cond.	246			250
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			7.8
	O2 ppm	9.2			8.1
	Cond.	278			283
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.8
	O2 ppm	9.2			8.2
	Cond.	294			296
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.8
	O2 ppm	9.1			8.2
	Cond.	304			306
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.9			7.7
	O2 ppm	9.1			8.3
	Cond.	305			303
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900028

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900028

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	8.0
	O2 ppm	8.8	9.0
	Cond.	200	205
	Temp(C)	20.0	20.0
50	pH	8.1	8.0
	O2 ppm	8.6	9.0
	Cond.	360	358
	Temp(C)	20.0	20.0
26	pH	8.2	8.0
	O2 ppm	8.6	9.0
	Cond.	430	430
	Temp(C)	20.0	20.0
13	pH	8.2	8.1
	O2 ppm	8.6	9.2
	Cond.	470	460
	Temp(C)	20.0	20.0
6	pH	8.2	8.2
	O2 ppm	8.6	9.1
	Cond.	488	483
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	8.6	9.2
	Cond.	500	500
	Temp(C)	20.0	20.0

COMPANY: Amoco Canada Petroleum Canada Ltd., Sarnia (104330204)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for two trout bioassays, conducted on storm water samples collected between October 1989 and March 1990, were provided by Amoco Canada Petroleum Canada Limited. One storm water sample had a 96 hour LC50 > 100 %, while the other sample was determined to have been non-acutely lethal to test fish.

Storm Water

03900087 sampled: 02/07/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900190 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Emergency Overflow

Emergency Overflow

Storm Water

Batch Discharge Effluent

Batch Discharge Effluent

TOXICITY TEST REPORT Sample: 03900087

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.
Sarnia, ONT
(104330204)
Region : Southwest
Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Ken Temple
Date Collected : 02/07/90
Received : 02/08/90
Tested : 02/08/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	6	6	6	6	60
65	0	0	0	1	1	10
40	0	0	0	1	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900087

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8	8.0			
	O2 ppm	7.0	8.2			
	Cond.	2540	2540			
	Temp(C)	14.5	15.0	15.0	15.0	15.0
65	pH	7.7				8.1
	O2 ppm	7.5				7.9
	Cond.	1850				1892
	Temp(C)	14.5	15.0	15.0	15.0	15.0
40	pH	7.8				8.2
	O2 ppm	7.8				8.1
	Cond.	1358				1378
	Temp(C)	14.5	15.0	15.0	15.0	15.0
20	pH	7.9				8.5
	O2 ppm	8.4				9.4
	Cond.	963				973
	Temp(C)	14.5	15.0	15.0	15.0	15.0
10	pH	7.9				8.5
	O2 ppm	8.4				9.3
	Cond.	754				762
	Temp(C)	14.5	15.0	15.0	15.0	15.0
5	pH	7.9				8.4
	O2 ppm	8.6				9.0
	Cond.	644				652
	Temp(C)	14.5	15.0	15.0	15.0	15.0
Control	pH	7.9				8.5
	O2 ppm	8.5				9.5
	Cond.	543				542
	Temp(C)	14.5	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900190

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.
Sarnia, ONT
(104330204)
Region : Southwest
Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. McKay
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/13/90 at: 1445

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900190

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.7				7.8
	O2 ppm	8.4				8.8
	Cond.	1049				1052
	Temp(C)	15.0	15.0	16.0	14.5	16.0
65	pH	7.8				7.7
	O2 ppm	8.8				6.3
	Cond.	870				871
	Temp(C)	15.0	15.0	16.0	14.5	16.0
40	pH	7.8				8.0
	O2 ppm	9.0				9.1
	Cond.	744				740
	Temp(C)	15.0	15.0	16.0	14.5	16.0
20	pH	7.8				8.2
	O2 ppm	9.2				9.3
	Cond.	652				642
	Temp(C)	15.0	15.0	16.0	14.5	16.0
10	pH	7.8				8.1
	O2 ppm	9.3				9.0
	Cond.	595				587
	Temp(C)	15.0	15.0	16.0	14.5	16.0
5	pH	7.8				8.2
	O2 ppm	9.4				9.4
	Cond.	574				561
	Temp(C)	15.0	15.0	16.0	14.5	16.0
Control	pH	7.8				8.1
	O2 ppm	9.4				8.9
	Cond.	550				539
	Temp(C)	15.0	15.0	16.0	14.5	16.0

COMPANY: Amoco Canada Petroleum Canada Ltd., Sarnia (104330204)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The monitoring regulation did not come into force until February 1990 for Amoco Canada Petroleum Ltd. of Sarnia. This company has submitted data for two Daphnia magna acute lethality toxicity tests conducted on samples of effluent from storm water outfall #100. Both samples were not acutely lethal to Daphnia.

Storm Water

03900087 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900190 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Emergency Overflow

Emergency Overflow

Storm Water

Batch Discharge Effluent

Batch Discharge Effluent

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900087

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.
Sarnia, ONT
(104330204)
Region : Southwest
Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : K. Temple
Date Collected : 02/07/90
Received : 02/08/90
Tested : 02/08/90 at: 1425

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900087

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.5		7.7
	O2 ppm	4.8		2.0
	Cond.	2530		2520
	Temp(C)	20.0	20.5	20.0
50	pH	7.9		7.8
	O2 ppm	6.9		3.7
	Cond.	1440		1428
	Temp(C)	20.0	20.5	20.0
25	pH	8.3		8.0
	O2 ppm	7.7		5.8
	Cond.	881		871
	Temp(C)	20.0	20.5	20.0
13	pH	8.3		8.2
	O2 ppm	8.2		7.1
	Cond.	599		592
	Temp(C)	20.0	20.5	20.0
6	pH	8.4		8.3
	O2 ppm	8.4		7.6
	Cond.	436		433
	Temp(C)	20.0	20.5	20.0
Control	pH	8.6		8.4
	O2 ppm	8.7		8.1
	Cond.	298		297
	Temp(C)	20.0	20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900190

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.
Sarnia, ONT
(104330204)
Region : Southwest
Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : S. McLay
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/13/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900190

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		7.6
	O2 ppm	8.3		4.2
	Cond.	1030		1024
	Temp(C)	20.0	20.5	20.5
50	pH	8.1		7.8
	O2 ppm	8.6		6.2
	Cond.	675		668
	Temp(C)	20.0	20.5	20.5
25	pH	8.3		8.0
	O2 ppm	8.8		7.4
	Cond.	491		487
	Temp(C)	20.0	20.5	20.5
13	pH	8.4		8.1
	O2 ppm	8.9		7.7
	Cond.	397		394
	Temp(C)	20.0	20.5	20.5
6	pH	8.4		8.2
	O2 ppm	9.0		8.0
	Cond.	346		341
	Temp(C)	20.0	20.5	20.5
Control	pH	8.4		8.3
	O2 ppm	9.0		8.1
	Cond.	299		299
	Temp(C)	20.0	20.5	20.5

COMPANY: B.F. Goodrich Canada Inc., Thorold (370304)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY
The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by B.F.Goodrich Canada Incorporated. All six combined effluent samples were determined to have been non-acutely lethal to test fish. An additional audit sample collected from this combined discharge in November was tested by the O.M.E. laboratory and was also determined to have been non-acutely lethal.

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combined effluent

08890442 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890472 sampled: 11/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01890277 sampled: 11/29/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

08890512 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900061 sampled: 01/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900101 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900211 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

waste site

rain gauge

intake water

MISA Trout

TOXICITY TEST REPORT Sample: 08890442

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M.Whitwell
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/20/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	25:10	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890442

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	25:10	48:00	72:00	96:00
100	pH	7.8							7.2
	O2 ppm	8.6							9.3
	Cond.	285							572
	Temp(C)	15.0							15.0
65	pH	7.7							7.3
	O2 ppm	8.3							9.7
	Cond.	310							526
	Temp(C)	15.0							15.0
40	pH	7.6							7.4
	O2 ppm	8.2							9.4
	Cond.	328							494
	Temp(C)	15.0							15.0
30	pH	7.5							7.5
	O2 ppm	7.4							9.5
	Cond.	336							481
	Temp(C)	15.0							15.0
20	pH	7.7							7.4
	O2 ppm	7.6							9.4
	Cond.	343							468
	Temp(C)	15.0							15.0
10	pH	7.4							7.5
	O2 ppm	7.1							9.3
	Cond.	350							455
	Temp(C)	15.0							15.0
Control	pH	7.0							7.7
	O2 ppm	8.3							10.0
	Cond.	340							509
	Temp(C)	15.0							15.0

MISA Trout

TOXICITY TEST REPORT Sample: 08890472

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M.Whitwell
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/17/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890472

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	pH	7.5							7.9
	O2 ppm	10.4							9.1
	Cond.	280							370
	Temp(C)	9.0				15.0			15.0
65	pH	7.4							8.2
	O2 ppm	9.5							9.2
	Cond.	350							500
	Temp(C)	10.0				15.0			15.0
40	pH	7.4							8.4
	O2 ppm	8.9							9.2
	Cond.	430							490
	Temp(C)	10.0				15.0			15.0
30	pH	7.3							8.4
	O2 ppm	9.3							9.5
	Cond.	440							510
	Temp(C)	11.0				15.0			15.0
10	pH	7.2							8.4
	O2 ppm	7.4							8.0
	Cond.	520							530
	Temp(C)	11.0				15.0			15.0
Control	pH	7.2							7.9
	O2 ppm	7.3							7.7
	Cond.	700							520
	Temp(C)	12.0				15.0			15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01890277

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 11/29/89
Received : 11/30/89
Tested : 12/01/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	25:10	51:15	76:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890277

TEST CONC. %		ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	25:10	51:15	76:10	96:0
100	pH	7.2		7.5	7.5	7.5	7.7	7.		
	O2 ppm	4.4		8.6	8.5	8.5	10.0	9.		
	Cond.	3900		3600	3625	3675	3600	375		
	Temp(C)	14.0		14.0	14.0	14.0	15.0	14.		
65	pH			7.8	7.6	7.7	7.7	7.		
	O2 ppm			10.1	9.1	9.2	9.8	9.		
	Cond.			2500	2550	2500	2550	260		
	Temp(C)			14.0	14.0	14.0	15.0	14.		
40	pH			7.6	7.3	7.3	7.3	7.		
	O2 ppm			9.5	7.5	8.0	9.0	8.		
	Cond.			1700	1725	1700	1700	170		
	Temp(C)			14.0	14.0	14.0	15.0	14.		
30	pH			7.7	7.5	7.5	7.8	7.		
	O2 ppm			9.8	8.8	9.2	9.7	9.		
	Cond.			1360	1350	1325	1300	140		
	Temp(C)			14.0	14.0	14.0	15.0	14.		
20	pH			7.8	7.7	7.7	7.8	7.		
	O2 ppm			9.8	9.3	9.4	10.0	9.		
	Cond.			1000	990	950	1000	100		
	Temp(C)			14.0	14.0	14.0	15.0	14.		
10	pH			7.9	7.7	7.6	7.8	7.		
	O2 ppm			10.2	9.2	8.8	10.2	9.		
	Cond.			600	500	590	600	62		
	Temp(C)			14.0	14.0	14.0	15.0	14.		
Control	pH			7.9	7.2	7.1	7.5	7.		
	O2 ppm			9.9	7.1	7.5	10.0	9.		
	Cond.			250	240	230	260	26		
	Temp(C)			14.0	14.0	14.0	14.0	14.		

MISA Trout

TOXICITY TEST REPORT Sample: 08890512

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M.Whitwell
Date Collected : 12/19/89
Received : 12/20/89
Tested : 12/20/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:05	71:30	94:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890512

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:05	71:30	94:00
100	pH	7.5							8.5
	O2 ppm	7.2							6.7
	Cond.	6000							6200
	Temp(C)	15.0							15.5
65	pH	7.7							8.5
	O2 ppm	7.1							7.1
	Cond.	4000							4100
	Temp(C)	15.0							15.5
40	pH	7.5							8.5
	O2 ppm	7.1							7.2
	Cond.	2800							3000
	Temp(C)	15.0							15.5
30	pH	7.6							8.4
	O2 ppm	7.1							7.2
	Cond.	2300							2350
	Temp(C)	15.0							15.5
10	pH	7.7							8.3
	O2 ppm	7.0							6.9
	Cond.	1300							1300
	Temp(C)	15.0							15.5
5	pH	7.7							8.2
	O2 ppm	7.2							7.4
	Cond.	980							1050
	Temp(C)	15.0							15.5
Control	pH	7.8							7.9
	O2 ppm	7.2							7.3
	Cond.	750							750
	Temp(C)	15.0							15.5

MISA Trout

TOXICITY TEST REPORT Sample: 08900061

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 01/24/90
Received : 01/25/90
Tested : 01/26/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:15	72:50	96:50	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	1	1	1	1	1	10
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900061

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:15	72:50	96:50
100	pH	8.0							8.1
	O2 ppm	8.9							9.5
	Cond.	580							620
	Temp(C)	15.5							16.0
65	pH	8.0							8.3
	O2 ppm	9.5							9.6
	Cond.	640							655
	Temp(C)	15.5							16.0
40	pH	8.0							8.4
	O2 ppm	9.6							9.7
	Cond.	680							645
	Temp(C)	15.5							16.0
30	pH	8.1							8.4
	O2 ppm	9.6							9.8
	Cond.	700							615
	Temp(C)	15.5							16.0
10	pH	8.1							8.4
	O2 ppm	9.2							9.6
	Cond.	720							570
	Temp(C)	15.5							16.0
5	pH	8.1							8.4
	O2 ppm	9.1							9.5
	Cond.	720							570
	Temp(C)	15.5							16.0
Control	pH	8.0							8.4
	O2 ppm	9.0							9.6
	Cond.	700							570
	Temp(C)	15.5							16.0

MISA Trout

TOXICITY TEST REPORT Sample: 08900101

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 02/12/90
Received : 02/16/90
Tested : 02/16/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:15	02:05	04:15	24:10	48:10	73:10	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900101

TEST CONC. %		ELAPSED TIME 00:00	01:15	02:05	04:15	24:10	48:10	73:10	97:00
100	pH	7.3							8.3
	O2 ppm	8.8							8.2
	Cond.	510							575
	Temp(C)	16.0							16.0
65	pH	7.5							8.4
	O2 ppm	8.7							8.2
	Cond.	580							620
	Temp(C)	16.0							16.0
40	pH	7.7							8.4
	O2 ppm	8.6							8.2
	Cond.	610							680
	Temp(C)	16.0							16.0
30	pH	7.7							8.5
	O2 ppm	8.6							8.2
	Cond.	685							650
	Temp(C)	16.0							16.0
10	pH	7.7							8.4
	O2 ppm	8.6							8.2
	Cond.	740							660
	Temp(C)	16.0							16.0
5	pH	7.7							8.5
	O2 ppm	8.6							8.3
	Cond.	750							600
	Temp(C)	16.0							16.0
Control	pH	7.7							8.5
	O2 ppm	8.7							8.3
	Cond.	750							590
	Temp(C)	16.0							16.0

MISA Trout

TOXICITY TEST REPORT Sample: 08900211

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 03/12/90
Received : 03/16/90
Tested : 03/16/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:05	02:10	04:00	25:05	50:10	73:10	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900211

TEST CONC. %		ELAPSED TIME 00:00	01:05	02:10	04:00	25:05	50:10	73:10	96:15
100	pH	7.6							8.1
	O2 ppm	8.3							8.4
	Cond.	610							625
	Temp(C)	17.0							15.0
65	pH	7.6							8.2
	O2 ppm	8.1							8.4
	Cond.	670							775
	Temp(C)	17.0							15.0
40	pH	7.6							8.1
	O2 ppm	8.1							8.5
	Cond.	680							700
	Temp(C)	17.0							15.0
30	pH	7.6							8.1
	O2 ppm	8.0							8.5
	Cond.	700							675
	Temp(C)	17.0							15.0
10	pH	7.5							8.1
	O2 ppm	7.9							8.4
	Cond.	700							650
	Temp(C)	17.0							15.0
5	pH	7.4							7.9
	O2 ppm	7.4							8.4
	Cond.	705							725
	Temp(C)	17.0							15.0
Control	pH	7.7							8.5
	O2 ppm	8.7							8.5
	Cond.	680							700
	Temp(C)	17.0							15.0

COMPANY: B.F. Goodrich Canada Inc., Thorold (370304)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

Data for six Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 have been submitted by B.F. Goodrich Canada Inc. of Thorold. Two samples were not acutely lethal to Daphnia and four other samples have LC50s greater than 100%. One sample of combined effluent was tested in the Ministry laboratory in November. This sample had one mortality in the 100% test concentration.

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combined effluent

08890444 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08890474 sampled: 11/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02890277 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/high conductivity

08890511 sampled: 12/19/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900062 sampled: 01/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900102 sampled: 02/12/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900212 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

waste site

rain gauge

intake water

TOXICITY TEST REPORT Sample: 08890444

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M.Whitwell
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/20/89 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	1	1	8
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	1	0	0	1	8
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890444

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	6.4	7.5
	O2 ppm	8.0	5.2
	Cond.	358	479
	Temp(C)	20.0	20.0
50	pH	6.8	7.8
	O2 ppm	8.3	4.8
	Cond.	312	394
	Temp(C)	20.0	20.0
25	pH	6.8	7.8
	O2 ppm	8.6	4.8
	Cond.	289	359
	Temp(C)	20.0	20.0
15	pH	7.0	7.8
	O2 ppm	8.2	5.2
	Cond.	280	356
	Temp(C)	20.0	20.0
5	pH	7.0	7.9
	O2 ppm	8.5	4.8
	Cond.	271	346
	Temp(C)	20.0	20.0
Control	pH	7.0	7.9
	O2 ppm	8.5	4.8
	Cond.	271	346
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08890474

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M.Whitwell
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/17/89 at: 1445

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:25	48:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890474

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:25	48:00
100	pH	7.8					8.1
	O2 ppm	9.7					9.1
	Cond.	340					470
	Temp(C)	19.0					19.0
50	pH	7.7					8.2
	O2 ppm	9.7					9.4
	Cond.	311					369
	Temp(C)	19.0					19.0
25	pH	7.7					8.2
	O2 ppm	9.7					9.6
	Cond.	290					300
	Temp(C)	19.0					19.0
15	pH	7.7					8.3
	O2 ppm	9.7					9.7
	Cond.	312					302
	Temp(C)	19.0					19.0
5	pH	7.7					8.3
	O2 ppm	9.7					9.7
	Cond.	272					283
	Temp(C)	19.0					19.0
Control	pH	7.6					8.4
	O2 ppm	9.7					9.8
	Cond.	280					290
	Temp(C)	19.0					19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890277

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 11/22/89
Received : 11/30/89
Tested : 11/30/89 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	1	8
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/high conductivity

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890277

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.2			7.4
	O2 ppm	5.1			6.4
	Cond.	5540			5530
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.5			7.6
	O2 ppm	7.4			7.3
	Cond.	3510			3530
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.7			7.7
	O2 ppm	8.5			7.9
	Cond.	1920			1960
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.7
	O2 ppm	8.9			8.1
	Cond.	1120			1119
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.7
	O2 ppm	9.1			8.1
	Cond.	591			591
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.9
	O2 ppm	9.3			8.4
	Cond.	290			307
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08890511

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M.Whitwell
Date Collected : 12/19/89
Received : 12/20/89
Tested : 12/20/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:14	02:00	04:00	24:10	48:00	TOTAL MORTALITY %
100	0	0	0	0	0	1	8
50	0	0	0	0	1	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	2	16
5	0	0	0	0	0	1	8
Control	0	0	0	0	1	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890511

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.3	7.9
	O2 ppm	8.0	4.0
	Cond.	6000	5500
	Temp(C)	20.0	19.0
50	pH	7.4	8.0
	O2 ppm	7.9	5.0
	Cond.	3200	2900
	Temp(C)	20.0	19.0
25	pH	7.5	8.1
	O2 ppm	7.8	4.5
	Cond.	1700	1600
	Temp(C)	20.0	19.0
15	pH	7.4	8.1
	O2 ppm	7.0	6.0
	Cond.	1300	1100
	Temp(C)	20.0	19.0
5	pH	7.5	8.2
	O2 ppm	7.5	5.5
	Cond.	700	600
	Temp(C)	20.0	19.0
Control	pH	7.4	8.1
	O2 ppm	7.8	7.5
	Cond.	510	400
	Temp(C)	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08900062

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 01/24/90
Received : 01/25/90
Tested : 01/26/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	25:00	50:10	TOTAL MORTALITY %
100	0	0	0	0	2	3	25
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900062

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	25:00	50:10
100	pH	7.4					6.9
	O2 ppm	7.5					7.0
	Cond.	550					600
	Temp(C)	20.0					20.0
50	pH	8.0					7.4
	O2 ppm	7.8					7.3
	Cond.	480					500
	Temp(C)	20.0					20.0
25	pH	8.1					7.6
	O2 ppm	8.1					7.6
	Cond.	460					450
	Temp(C)	20.0					20.0
15	pH	8.1					7.7
	O2 ppm	8.1					7.6
	Cond.	450					440
	Temp(C)	20.0					20.0
5	pH	8.4					7.8
	O2 ppm	8.1					7.6
	Cond.	400					425
	Temp(C)	20.0					20.0
Control	pH	7.8					7.9
	O2 ppm	8.1					7.6
	Cond.	400					425
	Temp(C)	20.0					20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08900102

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 02/12/90
Received : 02/16/90
Tested : 02/16/90 at: 1345

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:35	02:05	04:10	24:25	48:25	TOTAL MORTALITY %
100	0	0	0	0	0	2	16
49	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900102

TEST CONC. %		ELAPSED TIME 00:00	01:35	02:05	04:10	24:25	48:25
100	pH	7.4					7.5
	O2 ppm	6.3					2.8
	Cond.	515					610
	Temp(C)	20.0					20.0
49	pH	7.9					7.8
	O2 ppm	7.0					3.6
	Cond.	430					475
	Temp(C)	20.0					20.0
29	pH	8.2					8.1
	O2 ppm	7.3					4.4
	Cond.	410					450
	Temp(C)	20.0					20.0
11	pH	8.3					8.4
	O2 ppm	7.6					5.1
	Cond.	380					410
	Temp(C)	20.0					20.0
4	pH	8.2					8.4
	O2 ppm	7.6					5.9
	Cond.	370					400
	Temp(C)	20.0					20.0
Control	pH	8.2					8.4
	O2 ppm	7.8					6.4
	Cond.	365					400
	Temp(C)	20.0					20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08900212

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 03/12/90
Received : 03/16/90
Tested : 03/16/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:05	02:00	04:00	24:00	48:35	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900212

TEST CONC. %		ELAPSED TIME 00:00	48:35
100	pH	7.8	8.4
	O2 ppm	7.1	6.6
	Cond.	580	610
	Temp(C)	20.0	19.0
50	pH	7.9	8.3
	O2 ppm	7.1	6.6
	Cond.	555	570
	Temp(C)	20.0	19.0
25	pH	7.9	8.4
	O2 ppm	7.2	6.7
	Cond.	550	560
	Temp(C)	20.0	19.0
15	pH	7.9	8.4
	O2 ppm	7.1	6.6
	Cond.	540	550
	Temp(C)	20.0	19.0
5	pH	7.9	8.4
	O2 ppm	7.2	6.7
	Cond.	525	545
	Temp(C)	20.0	19.0
Control	pH	7.8	8.4
	O2 ppm	7.7	6.7
	Cond.	525	545
	Temp(C)	20.0	19.0

COMPANY: BASF Canada Inc., Sarnia (740407)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for six trout bioassays, conducted on cooling water and intake water samples collected between October 1989 and March 1990, were provided by BASF Canada Incorporated. Cooling water samples from both discharge locations, control points 0100 and 0200, were non-acutely lethal to test fish. Intake water samples were also determined to have been non-acutely lethal.

OT cooling water

05890108 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900033 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

05890107 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: D

05900034 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

intake water

05890106 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900031 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

MISA Trout

TOXICITY TEST REPORT Sample: 05890108

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:10	49:00	73:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890108

TEST CONC. %		ELAPSED TIME 00:00	22:10	49:00	73:10	96:00
100	pH	7.9	7.8	7.8	7.8	7.9
	O2 ppm	10.0	10.2	9.8	9.6	10.4
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.7	7.8	7.8	7.9
	O2 ppm	9.9	10.2	9.5	9.5	10.3
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.7	7.7	7.8	7.9
	O2 ppm	9.7	10.4	9.8	9.7	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.8	7.7	7.9	7.9
	O2 ppm	9.6	10.3	10.0	9.8	10.3
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.7	7.7	7.8	7.9
	O2 ppm	9.7	10.3	9.9	9.7	10.2
	Cond.	166				166
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.7	7.7	7.8	7.9
	O2 ppm	9.6	10.2	10.2	9.9	10.3
	Cond.	168				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9
	Cond.	165				165
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900033

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:00	43:00	67:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900033

TEST CONC. %		ELAPSED TIME 00:00	25:00	43:00	67:00	96:00
100	pH	7.9				7.8
	O2 ppm	9.0				8.6
	Cond.	168				172
	Temp(C)	15.0				15.0
100	pH	7.9				7.8
	O2 ppm	9.2				8.7
	Cond.	168				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.0				9.6
	Cond.	158				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.2				9.6
	Cond.	160				175
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890107

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:25	49:15	72:25	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : D

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890107

TEST CONC. %		ELAPSED TIME 00:00	22:25	49:15	72:25	96:00
100	pH	7.6	7.9	7.8	7.9	7.8
	O2 ppm	9.2	10.3	10.1	10.5	10.5
	Cond.	170				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.4	7.8	7.8	7.8	7.8
	O2 ppm	9.3	10.1	10.1	10.4	10.4
	Cond.	170				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.8	7.8	7.8	7.8
	O2 ppm	9.4	10.2	9.9	10.4	10.4
	Cond.	169				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.4	7.7	7.7	7.8	7.7
	O2 ppm	9.6	9.9	9.9	10.3	10.3
	Cond.	166				166
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	7.8	7.7	7.8	7.7
	O2 ppm	9.5	10.1	9.9	10.4	10.2
	Cond.	165				167
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.8	7.7	7.8	7.7
	O2 ppm	9.5	10.0	10.0	10.1	10.0
	Cond.	168				179
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9
	Cond.	165				165
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900034

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:00	43:00	67:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900034

TEST CONC. %		ELAPSED TIME 00:00	25:00	43:00	67:00	96:00
100	pH	7.6				7.7
	O2 ppm	9.2				8.6
	Cond.	185				191
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.0				9.6
	Cond.	158				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.2				9.6
	Cond.	160				175
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890106

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (500)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:10	49:00	72:10	97:10	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890106

TEST CONC. %		ELAPSED TIME 00:00	22:10	49:00	72:10	97:10
100	pH	7.9	7.8	7.8	7.8	7.8
	O2 ppm	10.6	10.4	10.2	10.2	10.6
	Cond.	162				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.9	7.9	7.9	7.9
	O2 ppm	10.6	10.5	10.2	10.3	10.5
	Cond.	162				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9
	Cond.	165				165
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900031

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:00	43:00	67:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900031

TEST CONC. %		ELAPSED TIME 00:00	25:00	43:00	67:00	96:00
100	pH	9.3				7.8
	O2 ppm	10.3				9.3
	Cond.	175				178
	Temp(C)	15.0				15.0
100	pH	7.9				7.9
	O2 ppm	10.4				9.4
	Cond.	168				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.0				9.6
	Cond.	158				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.2				9.6
	Cond.	160				175
	Temp(C)	15.0				15.0

COMPANY: BASF Canada Inc., Sarnia (740407)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
Data for six Daphnia magna acute lethality toxicity tests conducted on samples of intake water and once through cooling water (outfalls #100 and 200) collected between October 1989 and March 1990 have been submitted by BASF Canada Inc. of Sarnia. Samples from the intake water and once through cooling water #100 were all not acutely lethal to Daphnia. One sample from once through cooling water #200 was nonlethal and the other sample had an LC50 greater than 100%.

OT cooling water

05890108 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900033 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

05890107 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900034 sampled: 02/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

intake water

05890106 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900031 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890108

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890108

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.9
	O2 ppm	9.6	8.9
	Cond.	200	200
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	9.3	8.9
	Cond.	358	352
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.2	8.9
	Cond.	430	420
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	9.2	8.9
	Cond.	460	452
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.0	8.9
	Cond.	480	472
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	9.6	8.9
	Cond.	492	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900033

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900033

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	8.0	7.9
	O2 ppm	9.4	9.2
	Cond.	196	208
	Temp(C)	20.0	20.0
50	pH	8.2	8.1
	O2 ppm	9.0	9.2
	Cond.	350	355
	Temp(C)	20.0	20.0
26	pH	8.2	8.2
	O2 ppm	8.8	9.2
	Cond.	420	422
	Temp(C)	20.0	20.0
13	pH	8.3	8.2
	O2 ppm	8.9	9.2
	Cond.	452	456
	Temp(C)	20.0	20.0
6	pH	8.3	8.2
	O2 ppm	9.0	9.2
	Cond.	470	480
	Temp(C)	20.0	20.0
Control	pH	8.4	8.2
	O2 ppm	9.0	9.1
	Cond.	482	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890107

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1105

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:10	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890107

TEST CONC. %		ELAPSED TIME 00:00	48:10
100	pH	7.9	7.9
	O2 ppm	8.3	8.6
	Cond.	204	200
	Temp(C)	20.0	20.0
50	pH	7.9	8.1
	O2 ppm	8.7	8.7
	Cond.	364	360
	Temp(C)	20.0	20.0
26	pH	8.0	8.2
	O2 ppm	8.9	8.8
	Cond.	432	422
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.0	8.8
	Cond.	466	454
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	9.0	8.8
	Cond.	482	474
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	9.6	8.9
	Cond.	492	482
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900034

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	1	8
50	0	0	0
26	0	0	0
13	0	1	8
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900034

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.9
	O2 ppm	9.6	9.0
	Cond.	212	225
	Temp(C)	20.0	20.0
50	pH	8.2	8.1
	O2 ppm	9.0	9.1
	Cond.	358	360
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	8.8	9.2
	Cond.	422	430
	Temp(C)	20.0	20.0
13	pH	8.4	8.2
	O2 ppm	8.8	9.0
	Cond.	458	465
	Temp(C)	20.0	20.0
6	pH	8.4	8.2
	O2 ppm	8.7	9.1
	Cond.	470	481
	Temp(C)	20.0	20.0
Control	pH	8.4	8.2
	O2 ppm	8.8	9.0
	Cond.	482	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890106

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (500)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:05	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890106

TEST CONC. %		ELAPSED TIME 00:00	48:05
100	pH	7.8	8.0
	O2 ppm	9.2	9.0
	Cond.	198	200
	Temp(C)	20.0	20.0
50	pH	7.9	8.1
	O2 ppm	9.6	9.0
	Cond.	358	352
	Temp(C)	20.0	20.0
26	pH	8.0	8.1
	O2 ppm	9.6	9.0
	Cond.	428	412
	Temp(C)	20.0	20.0
13	pH	8.0	8.1
	O2 ppm	9.6	9.0
	Cond.	460	452
	Temp(C)	20.0	20.0
6	pH	8.0	8.1
	O2 ppm	9.4	9.0
	Cond.	482	470
	Temp(C)	20.0	20.0
Control	pH	8.0	8.1
	O2 ppm	9.6	9.2
	Cond.	492	488
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900031

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900031

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.0	7.8
	O2 ppm	10.2	9.0
	Cond.	196	205
	Temp(C)	20.0	20.0
50	pH	8.2	8.0
	O2 ppm	9.4	9.2
	Cond.	350	355
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	9.2	9.2
	Cond.	420	422
	Temp(C)	20.0	20.0
13	pH	8.3	8.2
	O2 ppm	9.3	9.1
	Cond.	452	459
	Temp(C)	20.0	20.0
6	pH	8.3	8.2
	O2 ppm	9.3	9.2
	Cond.	470	472
	Temp(C)	20.0	20.0
Control	pH	8.3	8.2
	O2 ppm	9.3	9.2
	Cond.	482	490
	Temp(C)	20.0	20.0

COMPANY: BASF Fibres Inc., Arnprior (740209)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
Acute toxicity monitoring requirement for BASF Fibres Incorporated was initiated July 31, 1990 therefore no acute toxicity results have been submitted for the period between October 1989 and March 1990.

COMPANY: BASF Fibres Inc., Arnprior (740209)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Toxicity monitoring for BASF Fibres Inc. of Arnprior was initiated on July 31, 1990 therefore no data for samples have been submitted for the period October 1989 to March 1990.

COMPANY: BTL Specialty Resins, Bellville
(1860006)
(now with Bellville Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for twelve trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by BTL Specialty Resins. All six samples collected from the combined effluent discharge, control point 0100, were determined to have been non-acutely lethal to test fish. One sample from the combined effluent discharge, control point 0200, had a 96 hour LC50 > 100 %, while the remaining five samples from this source were determined to have been non-acutely lethal. An audit sample collected in January from control point 0100 was tested by O.M.E. laboratory and was determined to have been non-acutely lethal. An audit sample collected in January from control point 0200 had a 96 hour LC50 > 100 %. BTL ceased operation on March 31, 1990 and site decommissioning is currently underway.

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combined effluent

03890214 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890252 sampled: 11/08/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890353 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900023 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900007 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03900100 sampled: 02/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900202 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

BTL Specialty Resins (continued)

combined effluent

03890215 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890251 sampled: 11/08/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890354 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900024 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900008 sampled: 01/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03900101 sampled: 02/06/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900203 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

rain gauge

intake water

MISA Trout

TOXICITY TEST REPORT Sample: 03890214

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J Mirka
Date Collected : 10/10/89
Received : 10/12/89
Tested : 10/13/89 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890214

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.4
	O2 ppm	7.1					8.8
	Cond.	567					566
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.8					8.4
	O2 ppm	7.9					8.8
	Cond.	547					542
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.7					8.5
	O2 ppm	7.2					9.2
	Cond.	525					530
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.7					8.4
	O2 ppm	7.6					8.5
	Cond.	480					487
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8					8.2
	O2 ppm	8.4					8.4
	Cond.	423					433
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	8.0					8.2
	O2 ppm	8.9					8.9
	Cond.	344					354
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890252

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89
Tested : 11/09/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890252

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	8.5					9.3
	Cond.	562					543
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
10	pH	7.7					8.0
	O2 ppm	8.6					8.2
	Cond.	543					537
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
20	pH	7.6					8.0
	O2 ppm	8.6					7.9
	Cond.	527					524
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
40	pH	7.7					7.9
	O2 ppm	8.8					7.6
	Cond.	499					494
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
65	pH	7.7					8.2
	O2 ppm	9.5					9.2
	Cond.	462					451
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
100	pH	7.7					8.1
	O2 ppm	9.6					8.9
	Cond.	399					410
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890353

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 12/12/89
Received : 12/14/89
Tested : 12/17/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890353

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.2
	O2 ppm	9.4				9.9
	Cond.	284				291
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	8.0				8.3
	O2 ppm	9.2				9.9
	Cond.	385				390
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.3
	O2 ppm	9.0				9.5
	Cond.	453				464
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.5
	O2 ppm	8.9				9.9
	Cond.	507				514
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	8.6				9.9
	Cond.	533				522
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	8.1				9.8
	Cond.	542				534
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.7				9.8
	Cond.	534				553
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900023

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 01/09/90
Received : 01/11/90
Tested : 01/12/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900023

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.7				7.9
	O2 ppm	9.7				8.7
	Cond.	410				419
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.9				8.4
	O2 ppm	8.9				9.1
	Cond.	553				564
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900007

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : Brad Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:30	46:00	68:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900007

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:30	46:00	68:30	96:0
100	pH	7.0		7.3		7.5	7.4	7.4	7.
	O2 ppm	9.4		9.1		9.8	9.5	9.4	9.
	Cond.	255		265		260	265	270	26
	Temp(C)	15.0		15.0		14.0	14.0	14.0	14.
65	pH			7.3		7.4	7.4	7.4	7.
	O2 ppm			9.5		9.8	9.4	9.7	9.
	Cond.			270		265	270	275	27
	Temp(C)			15.0		14.0	14.0	14.0	14.
40	pH			7.3		7.4	7.3	7.4	7.
	O2 ppm			9.5		9.8	9.5	9.6	9.
	Cond.			275		270	275	280	27
	Temp(C)			15.0		14.0	14.0	14.0	14.
30	pH			7.3		7.3	7.2	7.3	7.
	O2 ppm			9.4		9.7	9.3	9.5	9.
	Cond.			275		265	280	280	28
	Temp(C)			15.0		14.0	14.0	14.0	14.
20	pH			7.2		7.1	7.0	7.1	7.
	O2 ppm			9.2		9.2	9.3	9.0	8.
	Cond.			280		265	285	275	28
	Temp(C)			15.0		14.0	14.0	14.0	14.
10	pH			7.2		7.1	7.0	7.1	7.
	O2 ppm			9.3		9.7	9.4	9.4	9.
	Cond.			280		275	285	275	28
	Temp(C)			15.0		14.0	14.0	14.0	14.
Control	pH			7.2		7.0	7.0	7.0	7.
	O2 ppm			9.4		10.0	9.4	9.7	9.
	Cond.			280		280	285	280	27
	Temp(C)			15.0		14.0	14.0	14.0	14.

MISA Trout

TOXICITY TEST REPORT · Sample: 03900100

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 02/06/90
Received : 02/08/90
Tested : 02/08/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900100

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.2
	O2 ppm	8.4				9.5
	Cond.	303				311
	Temp(C)	15.0	15.0	15.0	14.0	15.0
100	pH	7.9				8.2
	O2 ppm	8.4				9.4
	Cond.	303				314
	Temp(C)	15.0	15.0	15.0	14.0	15.0
Control	pH	7.8				8.4
	O2 ppm	7.7				9.2
	Cond.	535				542
	Temp(C)	15.0	15.0	15.0	14.0	15.0
Control	pH	7.8				8.5
	O2 ppm	7.7				9.5
	Cond.	535				520
	Temp(C)	15.0	15.0	15.0	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900202

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 03/13/90
Received : 03/15/90
Tested : 03/15/90 at: 1505

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900202

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.2
	O2 ppm	10.2				9.5
	Cond.	375				373
	Temp(C)	16.0	15.0	16.0	15.5	16.0
100	pH	7.9				8.0
	O2 ppm	10.2				8.8
	Cond.	375				375
	Temp(C)	16.0	15.0	16.0	15.5	16.0
Control	pH	7.9				8.5
	O2 ppm	9.1				9.4
	Cond.	588				542
	Temp(C)	16.0	15.0	16.0	15.5	16.0
Control	pH	7.9				8.4
	O2 ppm	9.1				9.0
	Cond.	588				546
	Temp(C)	16.0	15.0	16.0	15.5	16.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890215

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 10/10/89
Received : 10/12/89
Tested : 10/13/89 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890215

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.4
	O2 ppm	7.1					8.9
	Cond.	567					565
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.8					8.5
	O2 ppm	8.0					9.1
	Cond.	544					541
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.8					8.4
	O2 ppm	7.7					8.9
	Cond.	522					523
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.9					8.4
	O2 ppm	8.3					9.2
	Cond.	475					476
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.9					8.3
	O2 ppm	8.4					9.0
	Cond.	414					420
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	7.7					8.0
	O2 ppm	8.8					8.3
	Cond.	330					336
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890251

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89
Tested : 11/09/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890251

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	8.7					9.2
	Cond.	561					529
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
10	pH	7.7					8.1
	O2 ppm	8.7					8.2
	Cond.	538					539
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
20	pH	7.7					8.2
	O2 ppm	8.7					9.1
	Cond.	514					515
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
40	pH	7.7					7.8
	O2 ppm	8.7					7.2
	Cond.	471					471
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
65	pH	7.6					8.1
	O2 ppm	9.1					9.1
	Cond.	403					407
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
100	pH	7.5					7.7
	O2 ppm	9.4					8.2
	Cond.	315					323
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890354

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 12/12/89
Received : 12/14/89
Tested : 12/17/89 at: 915

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890354

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				8.2
	O2 ppm	9.4				9.8
	Cond.	308				315
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.8				8.4
	O2 ppm	9.2				9.7
	Cond.	391				396
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.4
	O2 ppm	8.8				9.7
	Cond.	454				456
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.2
	O2 ppm	8.9				9.4
	Cond.	502				504
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	8.8				9.7
	Cond.	532				536
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	8.6				9.6
	Cond.	545				545
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.7				9.3
	Cond.	555				561
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900024

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 01/09/90
Received : 01/11/90
Tested : 01/12/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900024

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				7.9
	O2 ppm	9.7				8.3
	Cond.	317				308
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.9				8.4
	O2 ppm	8.5				9.1
	Cond.	562				566
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900008

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : grab
Sampled By : Brad Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	21:00	46:00	68:15	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900008

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	21:00	46:00	68:15	96:0
100	pH	7.0	7.3		7.4	7.4	7.4	7.		
	O2 ppm	9.3	9.3		9.6	9.5	9.5	9.		
	Cond.	235	240		240	245	250	24		
	Temp(C)	15.0	15.0		14.0	14.0	14.0	14.		
65	pH		7.4		7.4	7.4	7.3	7.		
	O2 ppm		9.5		9.6	9.4	9.6	9.		
	Cond.		255		255	260	260	26		
	Temp(C)		15.0		14.0	14.0	14.0	14.		
40	pH		7.3		7.3	7.3	7.2	7.		
	O2 ppm		9.1		9.6	9.5	9.5	9.		
	Cond.		265		265	270	270	27		
	Temp(C)		15.0		14.0	14.0	14.0	14.		
30	pH		7.4		7.2	7.2	7.1	7.		
	O2 ppm		9.3		9.6	9.5	9.7	9.		
	Cond.		270		265	280	275	27		
	Temp(C)		15.0		14.0	14.0	14.0	14.		
20	pH		7.3		7.1	7.1	7.0	7.		
	O2 ppm		9.2		9.5	9.3	9.4	9.		
	Cond.		275		270	280	280	28		
	Temp(C)		15.0		14.0	14.0	14.0	14.		
10	pH		7.3		7.1	7.0	7.0	7.		
	O2 ppm		9.3		9.6	9.3	9.5	9.		
	Cond.		275		275	280	285	28		
	Temp(C)		15.0		14.0	14.0	14.0	14.		
Control	pH		7.2		7.0	7.0	7.0	7.		
	O2 ppm		9.2		9.3	9.2	9.4	9.		
	Cond.		275		265	275	285	28		
	Temp(C)		15.0		14.0	14.0	14.0	14.		

MISA Trout

TOXICITY TEST REPORT Sample: 03900101

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 02/06/90
Received : 02/08/90
Tested : 02/08/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	1	10
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900101

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.7				8.2
	O2 ppm	8.4				9.5
	Cond.	311				319
	Temp(C)	15.0	15.0	15.0	14.0	15.0
100	pH	7.7				8.1
	O2 ppm	8.4				9.2
	Cond.	311				322
	Temp(C)	15.0	15.0	15.0	14.0	15.0
Control	pH	7.8				8.5
	O2 ppm	7.7				9.7
	Cond.	535				519
	Temp(C)	15.0	15.0	15.0	14.0	15.0
Control	pH	7.8				8.5
	O2 ppm	7.7				9.5
	Cond.	535				535
	Temp(C)	15.0	15.0	15.0	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900203

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 03/13/90
Received : 03/15/90
Tested : 03/15/90 at: 1510

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900203

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.5				7.9
	O2 ppm	8.8				8.4
	Cond.	255				259
	Temp(C)	16.0	15.0	16.0	15.5	16.0
100	pH	7.5				8.0
	O2 ppm	8.8				8.8
	Cond.	255				269
	Temp(C)	16.0	15.0	16.0	15.5	16.0
Control	pH	7.9				8.3
	O2 ppm	9.2				8.7
	Cond.	549				545
	Temp(C)	16.0	15.0	16.0	15.5	16.0
Control	pH	7.9				8.2
	O2 ppm	9.2				8.7
	Cond.	549				547
	Temp(C)	16.0	15.0	16.0	15.5	16.0

COMPANY: BTL Specialty Resins, Bellville
(1860006)
(now with Bellville Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results from twelve Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent (outfalls #100 and 200) collected between October 1989 and March 1990 were submitted by BTL Specialty Resins of Belleville. Three of six samples from combined effluent #100 were not acutely lethal to Daphnia. The remaining three samples had LC50 values greater than 100%. The sample collected in October had the greatest mortalities in the middle concentrations of effluent.

Three samples of combined effluent #200 were not acutely lethal to Daphnia and the remaining three samples had LC50 values greater than 100%.

One sample from each of these outfalls was tested in the Ministry laboratory in January. The sample from combined effluent #100 had one mortality in the 100% test solution, and the sample from combined effluent #200 was not acutely lethal to Daphnia.

BTL ceased operation on March 31, 1990 and site decommissioning is currently underway.

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combined effluent

03890214 sampled: 10/10/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890252 sampled: 11/08/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890353 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900023 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900007 sampled: 01/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900100 sampled: 02/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

BTL Specialty Resins (continued)

03900202 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890215 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890251 sampled: 11/08/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03890354 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900024 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900008 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900101 sampled: 02/06/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900203 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

rain gauge

intake water

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890214

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 10/10/89
Received : 10/12/89
Tested : 10/12/89 at: 1420

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	2	16
13	0	0	0	2	16
25	0	0	1	1	8
50	0	0	1	2	16
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890214

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.4
	O2 ppm	7.8			8.8
	Cond.	315			316
	Temp(C)	19.5	20.5	21.0	20.0
6	pH	8.2			8.3
	O2 ppm	8.0			8.7
	Cond.	319			322
	Temp(C)	19.5	20.5	21.0	20.0
13	pH	8.3			8.3
	O2 ppm	8.0			8.7
	Cond.	322			322
	Temp(C)	19.5	20.5	21.0	20.0
25	pH	8.3			8.3
	O2 ppm	8.1			8.7
	Cond.	325			325
	Temp(C)	19.5	20.5	21.0	20.0
50	pH	8.2			8.2
	O2 ppm	8.2			8.7
	Cond.	331			328
	Temp(C)	19.5	20.5	21.0	20.0
100	pH	7.9			8.2
	O2 ppm	8.3			8.7
	Cond.	340			337
	Temp(C)	19.5	20.5	21.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890252

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89
Tested : 11/09/89 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	1	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890252

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.4
	O2 ppm	8.9			9.2
	Cond.	304			306
	Temp(C)	20.0	20.0	20.5	20.0
6	pH	8.2			8.3
	O2 ppm	8.7			8.8
	Cond.	301			305
	Temp(C)	20.0	20.0	20.5	20.0
13	pH	8.3			8.3
	O2 ppm	8.7			8.8
	Cond.	313			315
	Temp(C)	20.0	20.0	20.5	20.0
25	pH	8.2			8.3
	O2 ppm	8.8			8.8
	Cond.	324			326
	Temp(C)	20.0	20.0	20.5	20.0
50	pH	7.9			8.2
	O2 ppm	8.9			8.8
	Cond.	344			347
	Temp(C)	20.0	20.0	20.5	20.0
100	pH	7.6			8.1
	O2 ppm	9.2			8.6
	Cond.	387			389
	Temp(C)	20.0	20.0	20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890353

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 12/12/89
Received : 12/14/89
Tested : 12/14/89 at: 1645

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890353

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.2
	O2 ppm	9.7		8.5
	Cond.	281		283
	Temp(C)	20.0	19.5	19.0
50	pH	8.2		8.3
	O2 ppm	8.7		8.5
	Cond.	292		293
	Temp(C)	20.0	19.5	19.0
25	pH	8.3		8.4
	O2 ppm	8.5		8.5
	Cond.	298		298
	Temp(C)	20.0	19.5	19.0
13	pH	8.4		8.4
	O2 ppm	8.4		8.5
	Cond.	300		300
	Temp(C)	20.0	19.5	19.0
6	pH	8.4		8.4
	O2 ppm	8.4		8.6
	Cond.	298		301
	Temp(C)	20.0	19.5	19.0
Control	pH	8.4		8.4
	O2 ppm	8.7		8.2
	Cond.	297		295
	Temp(C)	20.0	19.5	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900023

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 01/09/90
Received : 01/11/90
Tested : 01/12/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900023

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.2
	O2 ppm	9.1		8.7
	Cond.	406		412
	Temp(C)	20.0	20.0	20.0
50	pH	8.2		8.3
	O2 ppm	8.8		8.8
	Cond.	351		356
	Temp(C)	20.0	20.0	20.0
25	pH	8.4		8.4
	O2 ppm	8.8		8.8
	Cond.	324		328
	Temp(C)	20.0	20.0	20.0
13	pH	8.4		8.5
	O2 ppm	8.8		8.8
	Cond.	309		315
	Temp(C)	20.0	20.0	20.0
6	pH	8.5		8.5
	O2 ppm	8.8		8.8
	Cond.	299		308
	Temp(C)	20.0	20.0	20.0
Control	pH	8.6		8.5
	O2 ppm	8.8		8.6
	Cond.	298		302
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900007

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : B. Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1548

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	23:00	48:00	TOTAL MORTALITY %
100	0	0	1	1	8
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900007

TEST CONC. %		ELAPSED TIME 00:00	01:00	23:00	48:00
100	pH	7.7			8.0
	O2 ppm	9.0			7.9
	Cond.	322			315
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.9
	O2 ppm	9.0			7.7
	Cond.	321			311
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			7.8
	O2 ppm	8.9			7.5
	Cond.	318			309
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.1			7.8
	O2 ppm	9.0			7.5
	Cond.	319			319
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.2			7.7
	O2 ppm	9.0			7.4
	Cond.	317			310
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.2			7.7
	O2 ppm	9.0			7.6
	Cond.	301			308
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900100

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 02/06/90
Received : 02/08/90
Tested : 02/08/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900100

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.0		8.5
	Cond.	300		301
	Temp(C)	20.0	20.0	20.0
50	pH	8.3		8.4
	O2 ppm	8.8		8.4
	Cond.	300		299
	Temp(C)	20.0	20.0	20.0
25	pH	8.5		8.4
	O2 ppm	8.6		8.2
	Cond.	300		300
	Temp(C)	20.0	20.0	20.0
13	pH	8.5		8.4
	O2 ppm	8.6		8.0
	Cond.	300		298
	Temp(C)	20.0	20.0	20.0
6	pH	8.5		8.4
	O2 ppm	8.5		7.7
	Cond.	296		297
	Temp(C)	20.0	20.0	20.0
Control	pH	8.6		8.4
	O2 ppm	8.7		8.6
	Cond.	298		296
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900202

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 03/13/90
Received : 03/15/90
Tested : 03/15/90 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900202

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		8.0
	O2 ppm	8.8		8.8
	Cond.	372		367
	Temp(C)	20.5	20.0	20.0
50	pH	8.1		8.1
	O2 ppm	8.8		8.9
	Cond.	339		336
	Temp(C)	20.5	20.0	20.0
25	pH	8.2		8.2
	O2 ppm	8.7		8.9
	Cond.	324		319
	Temp(C)	20.5	20.0	20.0
13	pH	8.3		8.2
	O2 ppm	8.6		8.9
	Cond.	312		312
	Temp(C)	20.5	20.0	20.0
6	pH	8.3		8.2
	O2 ppm	8.6		8.9
	Cond.	309		306
	Temp(C)	20.5	20.0	20.0
Control	pH	8.5		8.3
	O2 ppm	8.6		8.7
	Cond.	305		307
	Temp(C)	20.5	20.0	20.0

TOXICITY TEST REPORT Sample: 03890215

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 10/10/89
Received : 10/12/89
Tested : 10/12/89 at: 1435

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890215

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.4
	O2 ppm	7.8			8.9
	Cond.	315			317
	Temp(C)	19.5	20.5	21.0	20.0
6	pH	8.3			8.3
	O2 ppm	8.2			9.1
	Cond.	318			323
	Temp(C)	19.5	20.5	21.0	20.0
13	pH	8.2			8.3
	O2 ppm	8.2			9.1
	Cond.	320			320
	Temp(C)	19.5	20.5	21.0	20.0
25	pH	8.1			8.3
	O2 ppm	8.3			9.0
	Cond.	321			321
	Temp(C)	19.5	20.5	21.0	20.0
50	pH	7.9			8.2
	O2 ppm	8.3			8.9
	Cond.	322			322
	Temp(C)	19.5	20.5	21.0	20.0
100	pH	7.5			8.0
	O2 ppm	8.5			8.7
	Cond.	323			322
	Temp(C)	19.5	20.5	21.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890251

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89
Tested : 11/09/89 at: 1320

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	1	1	8
13	0	0	0	0	0
25	0	0	1	3	25
50	0	0	0	0	0
100	0	0	0	3	25

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890251

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.9			9.2
	Cond.	304			309
	Temp(C)	20.0	20.0	20.5	20.0
6	pH	8.4			8.3
	O2 ppm	8.7			8.3
	Cond.	307			303
	Temp(C)	20.0	20.0	20.5	20.0
13	pH	8.2			8.3
	O2 ppm	8.7			8.7
	Cond.	306			306
	Temp(C)	20.0	20.0	20.5	20.0
25	pH	8.1			8.3
	O2 ppm	8.8			8.8
	Cond.	307			307
	Temp(C)	20.0	20.0	20.5	20.0
50	pH	7.8			8.1
	O2 ppm	8.8			8.8
	Cond.	307			308
	Temp(C)	20.0	20.0	20.5	20.0
100	pH	7.3			7.9
	O2 ppm	8.9			8.7
	Cond.	308			311
	Temp(C)	20.0	20.0	20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890354

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 12/12/89
Received : 12/14/89
Tested : 12/14/89 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890354

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		8.2
	O2 ppm	9.1		8.7
	Cond.	288		295
	Temp(C)	20.0	19.0	19.0
50	pH	8.0		8.3
	O2 ppm	8.7		8.7
	Cond.	293		295
	Temp(C)	20.0	19.0	19.0
25	pH	8.2		8.4
	O2 ppm	8.5		8.6
	Cond.	293		296
	Temp(C)	20.0	19.0	19.0
13	pH	8.3		8.4
	O2 ppm	8.4		8.5
	Cond.	295		297
	Temp(C)	20.0	19.0	19.0
6	pH	8.3		8.4
	O2 ppm	8.3		8.4
	Cond.	295		301
	Temp(C)	20.0	19.0	19.0
Control	pH	8.4		8.3
	O2 ppm	8.7		8.8
	Cond.	297		295
	Temp(C)	20.0	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900024

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 01/09/90
Received : 01/11/90
Tested : 01/12/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	8
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900024

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		8.2
	O2 ppm	9.2		8.8
	Cond.	300		300
	Temp(C)	20.0	20.0	20.0
50	pH	8.2		8.3
	O2 ppm	8.9		8.9
	Cond.	297		301
	Temp(C)	20.0	20.0	20.0
25	pH	8.4		8.4
	O2 ppm	8.8		8.9
	Cond.	297		301
	Temp(C)	20.0	20.0	20.0
13	pH	8.5		8.4
	O2 ppm	8.8		8.9
	Cond.	296		301
	Temp(C)	20.0	20.0	20.0
6	pH	8.5		8.4
	O2 ppm	8.7		8.9
	Cond.	294		301
	Temp(C)	20.0	20.0	20.0
Control	pH	8.6		8.5
	O2 ppm	8.8		8.7
	Cond.	298		301
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900008

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : B. Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1357

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900008

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.3			7.9
	O2 ppm	8.9			7.9
	Cond.	293			282
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.6			7.9
	O2 ppm	9.0			7.8
	Cond.	303			294
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			7.9
	O2 ppm	9.0			7.9
	Cond.	309			302
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.0			7.9
	O2 ppm	9.0			7.8
	Cond.	314			308
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.1			7.9
	O2 ppm	9.1			7.8
	Cond.	316			311
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.2			7.9
	O2 ppm	9.0			7.9
	Cond.	317			297
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900101

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 02/06/90
Received : 02/08/90
Tested : 02/08/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	1	8
25	0	1	1	8
13	0	1	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900101

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		8.1
	O2 ppm	8.8		8.4
	Cond.	308		310
	Temp(C)	20.0	20.0	20.0
50	pH	8.0		8.3
	O2 ppm	8.6		8.4
	Cond.	304		304
	Temp(C)	20.0	20.0	20.0
25	pH	8.3		8.4
	O2 ppm	8.6		8.5
	Cond.	303		302
	Temp(C)	20.0	20.0	20.0
13	pH	8.5		8.4
	O2 ppm	8.6		8.4
	Cond.	301		300
	Temp(C)	20.0	20.0	20.0
6	pH	8.5		8.4
	O2 ppm	8.5		8.5
	Cond.	300		301
	Temp(C)	20.0	20.0	20.0
Control	pH	8.6		8.4
	O2 ppm	8.7		8.5
	Cond.	298		297
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900203

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 03/13/90
Received : 03/15/90
Tested : 03/15/90 at: 1155

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900203

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.5		7.7
	O2 ppm	8.5		8.4
	Cond.	253		255
	Temp(C)	21.0	20.0	20.0
50	pH	7.9		8.0
	O2 ppm	8.5		8.7
	Cond.	280		281
	Temp(C)	21.0	20.0	20.0
25	pH	8.2		8.1
	O2 ppm	8.5		8.8
	Cond.	292		293
	Temp(C)	21.0	20.0	20.0
13	pH	8.4		8.2
	O2 ppm	8.5		8.9
	Cond.	299		299
	Temp(C)	21.0	20.0	20.0
6	pH	8.5		8.2
	O2 ppm	8.6		8.9
	Cond.	300		302
	Temp(C)	21.0	20.0	20.0
Control	pH	8.5		8.3
	O2 ppm	8.6		8.7
	Cond.	305		304
	Temp(C)	21.0	20.0	20.0

COMPANY: Canadian Oxy Chemicals Ltd., Fort Erie (1590009)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for two trout bioassays, conducted on two cooling water samples collected between October 1989 and March 1990, were provided by Canadian Oxy Chemicals Limited. One cooling water sample had a 96 hour LC50 > 100 %, while the second sample was determined to have been non-acutely lethal to test fish. An audit sample collected in November from the cooling water discharge was tested by O.M.E. laboratory and was determined to have been non-acutely lethal.

OT cooling water

03890310 sampled: 11/27/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

01890276 sampled: 11/29/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03900110 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test - Non Lethal

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890310

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Currah
Date Collected : 11/27/89
Received : 11/29/89
Tested : 11/30/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	1	1	1	1	10
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890310

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.1
	O2 ppm	10.0				9.3
	Cond.	451				457
	Temp(C)	15.0	15.0	14.5	14.5	14.5
65	pH	8.0				8.1
	O2 ppm	9.4				9.1
	Cond.	492				498
	Temp(C)	15.0	15.0	14.5	14.5	14.5
40	pH	7.8				8.4
	O2 ppm	9.2				9.6
	Cond.	518				522
	Temp(C)	15.0	15.0	14.5	14.5	14.5
20	pH	7.8				8.2
	O2 ppm	9.2				8.8
	Cond.	544				550
	Temp(C)	15.0	15.0	14.5	14.5	14.5
10	pH	7.8				8.4
	O2 ppm	9.2				9.4
	Cond.	554				563
	Temp(C)	15.0	15.0	14.5	14.5	14.5
Control	pH	7.7				8.5
	O2 ppm	8.9				9.6
	Cond.	571				572
	Temp(C)	15.0	15.0	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01890276

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 11/29/89
Received : 11/30/89
Tested : 12/01/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	25:10	51:00	75:10	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890276

TEST CONC. %		ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	25:10	51:00	75:10	96:1
100	pH	7.6		8.1	7.9	7.9	7.8	7.		
	O2 ppm	9.7		10.2	9.7	9.7	10.2	9.		
	Cond.	330		315	320	320	310	32		
	Temp(C)	14.0		15.0	14.0	14.0	15.0	15.		
65	pH			8.1	7.9	7.9	7.9	7.		
	O2 ppm			10.2	9.7	9.7	10.2	10.		
	Cond.			290	300	295	290	30		
	Temp(C)			15.0	14.0	14.0	15.0	15.		
40	pH			8.0	7.8	7.8	7.7	7.		
	O2 ppm			10.0	9.5	9.8	10.1	10.		
	Cond.			280	280	280	280	29		
	Temp(C)			15.0	14.0	14.0	15.0	15.		
30	pH			8.1	7.8	7.8	7.7	7.		
	O2 ppm			10.1	9.6	9.8	10.2	10.		
	Cond.			270	270	275	275	28		
	Temp(C)			15.0	14.0	14.0	15.0	15.		
20	pH			8.1	7.8	7.7	7.7	7.		
	O2 ppm			10.3	9.4	9.6	10.1	9.		
	Cond.			265	270	265	265	27		
	Temp(C)			15.0	14.0	14.0	15.0	15.		
10	pH			8.1	7.4	7.6	7.6	7.		
	O2 ppm			10.1	8.0	9.4	10.0	10.		
	Cond.			255	260	260	260	27		
	Temp(C)			15.0	14.0	14.0	15.0	15.		
Control	pH			8.1	7.7	7.7	7.6	7.		
	O2 ppm			10.2	9.8	9.8	10.1	10.		
	Cond.			260	240	230	255	26		
	Temp(C)			15.0	14.0	14.0	15.0	15.		

MISA Trout

TOXICITY TEST REPORT Sample: 03900110

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Currah
Date Collected : 02/12/90
Received : 02/14/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test - Non Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900110

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.3
	O2 ppm	10.2				9.5
	Cond.	523				526
	Temp(C)	16.0	15.0	14.0	14.0	14.0
100	pH	8.1				8.3
	O2 ppm	10.2				9.1
	Cond.	523				525
	Temp(C)	16.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.1				9.5
	Cond.	541				523
	Temp(C)	16.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.1				8.9
	Cond.	540				525
	Temp(C)	16.0	15.0	14.0	14.0	14.0

COMPANY: Canadian Oxy Chemicals Ltd., Fort Erie (1590009)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
Results of two Daphnia magna acute lethality toxicity tests conducted on samples of once through cooling water collected between October 1989 and March 1990 were submitted by Canadian Oxy Chemicals Ltd. of Fort Erie. Both samples were not acutely lethal to Daphnia. One sample tested in the Ministry laboratory in November was also not acutely lethal to Daphnia.

OT cooling water

03890310 sampled: 11/27/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02890276 sampled: 11/29/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900110 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890310

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Currah
Date Collected : 11/27/89
Received : 11/29/89
Tested : 11/30/89 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890310

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.6		9.6
	Cond.	440		443
	Temp(C)	19.0	19.5	19.5
50	pH	8.1		8.3
	O2 ppm	9.1		9.7
	Cond.	373		377
	Temp(C)	19.0	19.5	19.5
25	pH	8.3		8.3
	O2 ppm	9.1		9.8
	Cond.	341		346
	Temp(C)	19.0	19.5	19.5
13	pH	8.3		8.3
	O2 ppm	9.1		10.1
	Cond.	325		330
	Temp(C)	19.0	19.5	19.5
6	pH	8.3		8.3
	O2 ppm	9.1		9.8
	Cond.	316		314
	Temp(C)	19.0	19.5	19.5
Control	pH	8.4		8.4
	O2 ppm	9.1		9.4
	Cond.	306		306
	Temp(C)	19.0	19.5	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890276

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : Smithson&Trach
Date Collected : 11/29/89
Received : 11/30/89
Tested : 11/30/89 at: 1336

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:39	24:39	48:39	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890276

TEST CONC. %		ELAPSED TIME 00:00	01:39	24:39	48:39
100	pH	7.9			7.9
	O2 ppm	9.2			8.6
	Cond.	375			383
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	8.0			7.8
	O2 ppm	9.2			8.6
	Cond.	351			354
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			7.7
	O2 ppm	9.2			8.6
	Cond.	331			334
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.0			7.8
	O2 ppm	9.2			8.5
	Cond.	321			322
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.7
	O2 ppm	9.2			8.5
	Cond.	315			318
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.5
	O2 ppm	9.1			8.6
	Cond.	300			303
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900110

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Currah
Date Collected : 02/12/90
Received : 02/14/90
Tested : 02/14/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
100	0	0	0	0
Control	0	0	1	8
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900110

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.3
	O2 ppm	9.1		8.5
	Cond.	516		523
	Temp(C)	20.5	20.0	19.5
100	pH	8.0		8.3
	O2 ppm	9.1		8.5
	Cond.	516		515
	Temp(C)	20.5	20.0	19.5
Control	pH	8.6		8.5
	O2 ppm	8.8		8.5
	Cond.	299		307
	Temp(C)	20.5	20.0	19.5
Control	pH	8.6		8.5
	O2 ppm	8.8		8.4
	Cond.	299		302
	Temp(C)	20.5	20.0	19.5

COMPANY: Celanese Canada Inc., Millhaven (1730001)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for eighteen trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Celanese Canada Incorporated. All six combined effluent samples collected from control point 0100 were determined to have been non-acutely lethal to test fish. An audit sample collected from control point 0100 in December was tested by O.M.E. laboratory and it too was determined to have been non-acutely lethal. Five combined effluent samples collected from control point 0200 were determined to have been non-acutely lethal. One sample from this discharge had a 96 hour LC50 > 100 %. An audit sample collected from control point 0200 in December was determined to have been non-acutely lethal. All six combined effluent samples collected from control point 0300 were determined to have been non-acutely lethal. An audit sample collected in December from this discharge was also determined to have been non-acutely lethal by the O.M.E. laboratory.

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combined effluent

06890944 sampled: 10/01/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891047 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891173 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

01890288 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

06900097 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900224 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

Celanese Canada Inc. (continued)

06900335 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

combined effluent

06890946 sampled: 10/01/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891045 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891171 sampled: 12/04/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% MORTALITY IN FULL STRENGTH EFFLUENT

01890286 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

06900099 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900226 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900337 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

combined effluent

06890948 sampled: 10/01/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891049 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891175 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

01890287 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

Celanese Canada Inc. (continued)

06900101 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900228 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900339 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

process effluent

emergency overflow

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890944

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : 24HR COMPOSITE
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890944

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9	8.0	8.0	8.1	8.1
	O2 ppm	9.4	9.5	9.7	8.5	8.3
	Cond.	407				415
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	7.9	8.0	8.1	8.0
	O2 ppm	9.5	9.4	9.5	8.7	8.3
	Cond.	395				402
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	7.9	8.0	8.2	8.2
	O2 ppm	9.6	9.5	9.6	8.8	8.9
	Cond.	390				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	8.0	8.0	8.0
	O2 ppm	9.6	9.6	9.7	8.3	8.9
	Cond.	385				391
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.0	8.1	7.9	8.1
	O2 ppm	9.7	9.7	9.5	8.4	8.7
	Cond.	381				386
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.1	8.1	8.1	8.2
	O2 ppm	9.5	9.6	9.7	8.5	8.6
	Cond.	378				384
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.7	9.6	8.5	8.8
	Cond.	362				365
	Temp(C)	15.0	15.0	15.0	15.0	20.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891047

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891047

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	8.2	8.0	8.2	8.1	8.1
	O2 ppm	7.5	7.6	7.6	7.8	7.6
	Cond.	288				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	8.2	8.4	8.5	8.3	8.0
	O2 ppm	7.7	9.7	9.0	7.9	7.6
	Cond.	295				357
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.2	8.4	8.6	8.6	8.0
	O2 ppm	8.7	9.6	9.6	9.7	8.1
	Cond.	306				358
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.2	8.5	8.6	8.5	8.1
	O2 ppm	9.4	9.7	9.6	9.6	9.4
	Cond.	309				361
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.2	8.5	8.6	8.5	8.2
	O2 ppm	9.4	9.8	9.8	9.7	9.2
	Cond.	314				347
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.3	8.5	8.6	8.5	8.0
	O2 ppm	9.7	9.9	9.8	9.8	7.7
	Cond.	321				377
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.3	8.4	8.6	8.5	8.0
	O2 ppm	9.6	9.9	9.8	9.9	8.1
	Cond.	330				383
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891173

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891173

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.8	7.8	8.0	7.9	8.1
	O2 ppm	9.4	8.4	8.4	8.2	9.3
	Cond.	407				390
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.7	8.0	8.0	8.0
	O2 ppm	9.6	10.2	8.9	9.8	9.8
	Cond.	425				365
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.7	8.0	8.0	7.9
	O2 ppm	9.2	8.9	9.3	9.7	8.4
	Cond.	389				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.0	7.8	8.0	8.0	8.0
	O2 ppm	9.5	9.6	9.6	9.6	9.9
	Cond.	372				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	7.7	7.9	8.0	8.0
	O2 ppm	9.6	9.2	9.3	9.7	8.2
	Cond.	373				375
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.0	7.8	7.8	8.1	8.0
	O2 ppm	9.7	9.9	10.2	9.6	9.9
	Cond.	369				377
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.7	7.8	8.1	8.0
	O2 ppm	10.4	10.3	9.7	9.3	9.3
	Cond.	380				387
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01890288

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/14/89 at: 1420

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	47:10	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890288

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	47:10	72:00	96:0
100	pH	7.4		7.6			8.0	7.9	7.9	7.
	O2 ppm	9.8		9.9			10.9	10.7	10.3	9.
	Cond.	270		275			270	290	295	28
	Temp(C)	15.0		15.0			14.0	14.0	14.0	14.
65	pH			7.6			8.0	7.8	7.7	7.
	O2 ppm			9.9			10.7	10.4	10.2	9.
	Cond.			260			265	280	265	27
	Temp(C)			15.0			14.0	14.0	14.0	14.
40	pH			7.6			8.0	7.9	7.8	7.
	O2 ppm			10.0			10.9	10.5	10.2	9.
	Cond.			245			265	270	265	26
	Temp(C)			15.0			14.0	14.0	14.0	14.
30	pH			7.6			8.0	8.0	7.8	7.
	O2 ppm			10.0			10.7	10.8	10.5	9.
	Cond.			255			250	265	260	26
	Temp(C)			15.0			14.0	14.0	14.0	14.
20	pH			7.6			8.0	7.9	7.8	7.
	O2 ppm			9.9			10.9	10.7	10.4	9.
	Cond.			255			250	260	260	25
	Temp(C)			15.0			14.0	14.0	14.0	14.
10	pH			7.6			8.0	8.0	7.8	7.
	O2 ppm			10.0			10.9	10.7	10.6	9.
	Cond.			250			250	260	260	24
	Temp(C)			15.0			14.0	14.0	14.0	14.
Control	pH			7.7			7.9	7.9	7.7	7.
	O2 ppm			9.7			10.7	10.8	10.5	9.
	Cond.			245			245	250	240	24
	Temp(C)			15.0			14.0	14.0	14.0	14.

MISA Trout

TOXICITY TEST REPORT Sample: 06900097

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900097

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.4	8.1	8.2	8.2	8.2
	O2 ppm	9.7	9.0	9.1	8.8	8.6
	Cond.	361				401
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	8.0	8.1	8.2	8.1
	O2 ppm	10.2	10.0	9.9	9.3	9.2
	Cond.	365				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.5	8.0	8.1	8.2	8.1
	O2 ppm	10.1	9.3	8.9	8.8	9.3
	Cond.	376				372
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.6	8.0	8.2	8.2	8.1
	O2 ppm	10.2	10.4	9.3	9.1	9.1
	Cond.	384				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.6	7.9	8.1	8.1	7.9
	O2 ppm	9.2	8.6	8.4	8.4	8.1
	Cond.	401				402
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.7	8.0	8.2	8.2	8.1
	O2 ppm	9.8	9.1	9.3	9.2	9.1
	Cond.	414				414
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	8.0	8.2	8.2	8.1
	O2 ppm	9.4	8.8	9.4	8.7	8.6
	Cond.	439				439
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900224

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900224

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9	8.1	8.1	8.0	8.1
	O2 ppm	9.3	8.3	8.2	9.3	9.5
	Cond.	443				464
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	8.1	8.1	8.1	8.1
	O2 ppm	9.4	8.4	8.4	9.1	9.4
	Cond.	425				451
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	8.1	8.1	8.0	8.1
	O2 ppm	9.6	8.1	8.1	9.0	9.3
	Cond.	418				444
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	8.0	8.2	8.1	8.1
	O2 ppm	9.7	8.0	9.0	8.9	9.4
	Cond.	408				437
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.2	8.2	8.1	8.2
	O2 ppm	9.6	9.3	9.3	9.3	9.2
	Cond.	407				436
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	8.0	8.0	7.9	8.0
	O2 ppm	9.5	8.3	8.3	9.1	8.9
	Cond.	403				446
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0	8.1
	O2 ppm	9.8	9.3	9.0	8.9	9.0
	Cond.	382				410
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900335

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900335

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6	8.2	8.1	8.2	8.1
	O2 ppm	7.7	9.6	8.7	10.4	9.6
	Cond.	472				459
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.7	8.2	8.1	8.1	8.1
	O2 ppm	8.9	9.8	8.7	10.4	9.9
	Cond.	449				447
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.7	8.1	8.0	8.0	8.1
	O2 ppm	8.8	9.7	8.3	10.2	9.6
	Cond.	437				446
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	8.2	8.1	8.1	7.9
	O2 ppm	9.3	9.6	8.7	10.4	9.6
	Cond.	423				445
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.2	8.1	8.1	8.1
	O2 ppm	9.6	9.5	8.7	10.2	9.7
	Cond.	417				444
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.2	8.0	8.0	8.0
	O2 ppm	9.2	9.6	8.7	10.1	9.4
	Cond.	410				445
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	8.9	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06890946

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : 24HR COMPOSITE
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890946

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8	8.1	8.1	8.1	8.2
	O2 ppm	9.5	9.5	9.7	8.6	8.7
	Cond.	369				377
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	8.0	8.0	8.0	8.0
	O2 ppm	9.5	9.5	9.7	8.5	8.8
	Cond.	371				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.7	8.1	8.0	8.1	8.2
	O2 ppm	9.6	9.4	9.6	8.7	9.1
	Cond.	373				380
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.7	8.0	7.9	8.0	8.0
	O2 ppm	9.7	9.5	9.7	8.4	8.8
	Cond.	375				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.6	8.0	7.8	8.1	8.1
	O2 ppm	9.5	9.5	9.6	8.3	8.7
	Cond.	375				384
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	7.9	7.9	7.8	7.8
	O2 ppm	9.4	9.6	9.5	8.0	8.2
	Cond.	374				386
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.7	9.6	8.5	8.8
	Cond.	362				365
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891045

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891045

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	8.2	8.0	8.2	8.1	8.1
	O2 ppm	7.5	7.6	7.6	7.8	7.6
	Cond.	288				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	8.3	8.6	8.5	8.4	8.1
	O2 ppm	8.7	9.5	9.7	9.5	9.8
	Cond.	291				345
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.3	8.5	8.5	8.4	8.1
	O2 ppm	9.0	9.8	9.8	9.0	8.8
	Cond.	296				341
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.3	8.5	8.5	8.5	8.1
	O2 ppm	9.7	9.8	9.8	9.4	9.6
	Cond.	294				338
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.3	8.6	8.5	8.5	8.1
	O2 ppm	9.8	9.8	9.9	9.7	10.0
	Cond.	289				332
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.4	8.6	8.6	8.5	8.2
	O2 ppm	9.9	10.0	10.0	9.9	10.1
	Cond.	285				329
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.6	8.6	8.6	8.5	8.1
	O2 ppm	10.0	10.0	10.0	9.5	10.0
	Cond.	274				322
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891171

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	1	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : 10% MORTALITY IN FULL STRENGTH EFFLUENT

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06891171

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.8	7.8	8.0	8.0	8.1
	O2 ppm	9.4	8.4	8.4	8.4	9.3
	Cond.	407				390
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.5	8.0	8.0	8.0
	O2 ppm	9.3	9.2	9.3	8.7	9.7
	Cond.	364				371
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.6	7.9	8.0	8.0
	O2 ppm	9.4	8.4	9.3	9.1	8.9
	Cond.	362				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.6	7.9	8.0	8.0
	O2 ppm	9.5	8.7	9.6	9.3	9.4
	Cond.	361				361
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	7.5	7.9	8.0	8.0
	O2 ppm	9.7	8.4	9.9	9.6	9.3
	Cond.	344				356
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	7.6	7.9	8.0	8.0
	O2 ppm	9.8	8.8	9.6	9.5	9.3
	Cond.	345				349
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.6	7.9	8.0	8.0
	O2 ppm	10.0	9.3	9.9	9.4	8.7
	Cond.	308				339
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01890286

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/14/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	23:30	47:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890286

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	23:30	47:00	72:00	96:0
100	pH	7.6	7.7		7.9	8.0	7.8	7.		
	O2 ppm	10.7	10.1		10.8	11.0	10.8	9.		
	Cond.	240	235		225	240	245	23		
	Temp(C)	15.0	15.0		15.0	15.0	15.0	15.		
65	pH		7.7		8.0	7.9	7.9	7.		
	O2 ppm		10.1		11.0	11.1	10.8	10.		
	Cond.		230		225	245	250	23		
	Temp(C)		15.0		15.0	15.0	15.0	15.		
40	pH		7.6		8.0	7.9	7.8	7.		
	O2 ppm		10.1		10.8	10.9	10.7	9.		
	Cond.		240		245	245	250	23		
	Temp(C)		15.0		15.0	15.0	15.0	15.		
30	pH		7.6		7.8	7.9	7.8	7.		
	O2 ppm		10.0		10.8	10.9	10.5	9.		
	Cond.		245		245	250	250	23		
	Temp(C)		15.0		15.0	15.0	15.0	15.		
20	pH		7.5		7.9	7.9	7.8	7.		
	O2 ppm		10.0		10.8	10.8	10.7	10.		
	Cond.		245		245	250	250	23		
	Temp(C)		15.0		15.0	15.0	15.0	15.		
10	pH		7.6		8.0	7.9	7.8	7.		
	O2 ppm		9.8		10.8	10.9	10.7	9.		
	Cond.		245		250	250	250	24		
	Temp(C)		15.0		15.0	15.0	15.0	15.		
Control	pH		7.6		8.0	7.9	7.6	7.		
	O2 ppm		9.8		10.8	10.8	10.6	10.		
	Cond.		250		250	230	230	25		
	Temp(C)		15.0		15.0	15.0	15.0	15.		

MISA Trout

TOXICITY TEST REPORT Sample: 06900099

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1830

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900099

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.4	8.1	8.2	8.2	8.2
	O2 ppm	9.7	9.0	9.1	8.8	8.6
	Cond.	361				401
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.6	7.8	7.9	8.0
	O2 ppm	9.5	8.4	8.2	7.8	8.0
	Cond.	380				427
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.3	7.8	8.0	8.0	7.9
	O2 ppm	9.5	8.1	8.1	8.1	7.8
	Cond.	375				401
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.4	8.0	8.2	8.3	8.2
	O2 ppm	9.4	8.0	8.3	8.3	8.3
	Cond.	372				393
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.5	8.0	8.2	8.2	8.1
	O2 ppm	9.5	8.1	8.6	8.1	8.1
	Cond.	367				385
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.6	8.0	8.2	8.2	8.2
	O2 ppm	8.9	8.8	8.6	8.6	8.7
	Cond.	360				371
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.9	8.1	8.1	8.1
	O2 ppm	8.7	8.5	8.5	8.3	7.9
	Cond.	355				349
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900226

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900226

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1	8.1	8.2	8.1	8.2
	O2 ppm	9.2	8.6	8.7	9.3	9.1
	Cond.	331				350
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.1	8.2	8.1	8.2
	O2 ppm	9.7	8.7	8.7	9.1	9.3
	Cond.	350				378
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.1	8.1	8.1	8.2
	O2 ppm	9.8	8.7	8.7	9.4	9.2
	Cond.	360				386
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	8.0	8.1	8.2
	O2 ppm	9.9	8.4	8.0	9.2	9.0
	Cond.	375				400
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.9	8.2	8.2	8.2	8.2
	O2 ppm	9.8	9.3	8.8	9.3	9.2
	Cond.	381				405
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.2	8.2	8.1	8.2
	O2 ppm	9.6	8.9	8.7	9.1	8.7
	Cond.	388				416
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0	8.1
	O2 ppm	9.8	9.3	9.0	8.9	9.0
	Cond.	382				410
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900337

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900337

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1	8.2	8.1	8.1	8.0
	O2 ppm	9.6	9.7	8.4	10.6	10.0
	Cond.	350				339
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.0	8.2	8.1	8.2	8.1
	O2 ppm	9.5	9.6	9.1	10.4	9.8
	Cond.	369				370
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.1	8.0	8.1	8.0
	O2 ppm	9.6	9.7	9.0	10.4	10.0
	Cond.	377				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.9	8.1	8.0	8.1	8.0
	O2 ppm	9.7	9.5	8.9	10.4	9.6
	Cond.	389				400
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.9	8.1	8.0	8.1	8.0
	O2 ppm	9.5	9.4	8.3	10.2	9.8
	Cond.	397				410
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.2	8.1	8.2	8.1
	O2 ppm	9.7	9.5	9.4	10.0	9.8
	Cond.	403				421
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	8.9	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06890948

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890948

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9	8.0	8.1	8.0	8.3
	O2 ppm	9.4	9.5	9.5	8.5	8.8
	Cond.	365				376
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	8.0	8.0	7.8	8.2
	O2 ppm	9.3	9.6	9.7	8.5	8.6
	Cond.	372				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	8.1	8.0	7.9	8.0
	O2 ppm	9.4	9.7	9.6	8.1	8.4
	Cond.	372				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.6	9.5	8.3	8.7
	Cond.	375				383
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.9	7.8	8.1	8.2
	O2 ppm	9.5	9.5	9.5	8.7	8.4
	Cond.	377				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.1	7.8	8.2	8.2
	O2 ppm	9.4	9.4	9.6	8.8	8.5
	Cond.	371				383
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.7	9.6	8.5	8.8
	Cond.	362				365
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891049

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891049

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	8.2	8.0	8.2	8.1	8.1
	O2 ppm	7.5	7.6	7.6	7.8	7.6
	Cond.	288				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	8.2	8.3	8.3	8.2	8.2
	O2 ppm	9.3	7.0	9.2	9.2	9.1
	Cond.	299				345
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.2	8.5	8.4	8.2	8.4
	O2 ppm	9.6	9.4	9.5	9.3	9.3
	Cond.	298				339
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.3	8.5	8.4	8.2	8.3
	O2 ppm	9.8	9.6	9.7	9.5	9.8
	Cond.	295				336
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.3	8.5	8.4	8.2	8.3
	O2 ppm	9.9	9.9	9.9	9.4	9.2
	Cond.	289				331
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.4	8.4	8.4	8.3	8.3
	O2 ppm	9.9	9.8	9.9	9.5	9.3
	Cond.	285				329
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.5	8.6	8.5	8.4	8.5
	O2 ppm	9.9	9.9	9.9	9.7	9.9
	Cond.	269				321
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891175

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891175

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.8	7.8	8.0	8.0	8.1
	O2 ppm	9.4	8.4	8.4	8.4	9.3
	Cond.	407				390
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.7	8.0	8.0	8.0
	O2 ppm	8.9	8.4	10.2	10.1	9.3
	Cond.	356				349
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.7	7.9	8.0	8.0
	O2 ppm	9.3	9.2	9.9	10.2	9.5
	Cond.	364				351
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.6	7.9	8.0	8.0
	O2 ppm	9.5	9.3	10.3	9.8	9.2
	Cond.	360				351
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.0	7.9	7.7	7.8	7.9
	O2 ppm	9.7	9.7	9.3	8.7	9.3
	Cond.	349				326
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.1	8.0	7.9	7.9	8.0
	O2 ppm	9.8	9.1	8.9	9.1	9.2
	Cond.	340				356
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.0	7.8	7.8	8.0	7.9
	O2 ppm	9.8	8.7	9.5	9.6	9.3
	Cond.	319				350
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01890287

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/14/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	47:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890287

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	47:00	72:00	96:0
100	pH	7.6		7.8			8.0	7.9	7.8	7.
	O2 ppm	11.3		10.1			10.8	10.8	10.5	9.
	Cond.	235		230			235	245	245	23
	Temp(C)	15.0		15.0			14.0	14.0	14.0	14.
65	pH			7.7			8.0	8.0	7.9	7.
	O2 ppm			10.0			11.0	10.9	10.7	9.
	Cond.			240			235	250	250	23
	Temp(C)			15.0			14.0	14.0	14.0	14.
40	pH			7.7			8.0	7.8	7.8	7.
	O2 ppm			9.9			10.7	10.8	10.6	9.
	Cond.			240			235	250	250	24
	Temp(C)			15.0			14.0	14.0	14.0	14.
30	pH			7.6			8.0	7.9	7.8	7.
	O2 ppm			9.9			10.8	11.0	10.7	9.
	Cond.			240			235	250	250	24
	Temp(C)			15.0			14.0	14.0	14.0	14.
20	pH			7.6			8.0	7.9	7.8	7.
	O2 ppm			9.9			11.2	11.0	10.7	10.
	Cond.			240			250	245	250	24
	Temp(C)			15.0			14.0	14.0	14.0	14.
10	pH			7.6			7.9	7.9	7.9	7.
	O2 ppm			9.9			10.8	10.9	10.7	10.
	Cond.			240			250	245	250	24
	Temp(C)			15.0			14.0	14.0	14.0	14.
Control	pH			7.6			8.0	7.8	7.8	7.
	O2 ppm			9.8			10.9	11.0	10.7	10.
	Cond.			250			245	220	235	23
	Temp(C)			15.0			14.0	14.0	14.0	14.

MISA Trout

TOXICITY TEST REPORT Sample: 06900101

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1845

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900101

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.4	8.1	8.2	8.2	8.2
	O2 ppm	9.7	9.0	9.1	8.8	8.6
	Cond.	361				401
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	7.8	8.1	8.1	8.1
	O2 ppm	9.6	8.8	8.7	8.4	7.6
	Cond.	365				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.6	7.9	8.1	8.1	8.1
	O2 ppm	9.4	9.3	8.6	8.7	8.2
	Cond.	372				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.6	7.9	8.2	8.2	8.2
	O2 ppm	9.7	8.3	8.7	8.4	8.1
	Cond.	372				387
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.6	7.9	8.0	8.0	8.3
	O2 ppm	8.8	8.5	8.3	7.8	8.7
	Cond.	370				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.7	7.9	8.2	8.1	8.1
	O2 ppm	8.6	9.3	8.8	8.5	8.2
	Cond.	369				371
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.9	8.1	8.1	8.1
	O2 ppm	8.1	8.5	8.4	8.8	7.8
	Cond.	361				351
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900228

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900228

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0	8.0	7.9	8.0	8.1
	O2 ppm	9.6	7.8	7.8	9.2	8.8
	Cond.	331				349
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.0	8.1	8.0	8.1
	O2 ppm	9.6	8.1	8.7	9.3	8.9
	Cond.	352				373
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	8.1	8.1	8.0	8.1
	O2 ppm	9.9	8.4	8.4	9.4	9.2
	Cond.	360				385
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	7.9	7.9	8.0
	O2 ppm	9.6	8.8	8.3	8.9	9.3
	Cond.	372				399
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.0	8.0	8.0	8.1
	O2 ppm	9.7	8.9	8.7	9.2	9.0
	Cond.	378				407
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.9	8.1	8.0	8.1
	O2 ppm	9.7	8.8	8.3	9.0	8.7
	Cond.	379				411
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0	8.1
	O2 ppm	9.8	9.3	9.0	8.9	9.0
	Cond.	382				410
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900339

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900339

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1	8.1	8.0	8.1	8.0
	O2 ppm	8.7	9.7	8.2	10.2	9.6
	Cond.	353				345
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.0	8.2	8.1	8.2	8.1
	O2 ppm	9.3	9.8	8.6	10.6	10.0
	Cond.	372				372
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.0	8.2	8.1	8.2	8.1
	O2 ppm	9.5	9.7	9.0	10.6	9.8
	Cond.	378				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.9	8.1	8.0	8.0	7.9
	O2 ppm	9.2	9.8	8.9	10.4	9.8
	Cond.	387				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.6	9.8	8.7	10.6	9.0
	Cond.	393				402
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.9	8.2	8.1	8.1	8.0
	O2 ppm	9.7	9.7	9.5	10.4	10.0
	Cond.	399				406
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	8.9	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: Celanese Canada Inc., Millhaven (1730001)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results for eighteen Daphnia magna acute lethality toxicity tests conducted on samples collected from three combined effluent outfalls between October 1989 and March 1990 were submitted by Celanese Canada Inc. of Millhaven. The six samples from combined effluent #100 were not acutely lethal to Daphnia. Five samples from combined effluent #200 were not acutely lethal to Daphnia and a sixth sample had one mortality in the 100% effluent concentration. All six samples from combined effluent #300 were also nonlethal to Daphnia.

Tests conducted in the Ministry laboratory in December on samples of effluent for all three outfalls indicated that the effluents were nonlethal at this time.

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combined effluent

06890945 sampled: 10/01/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06891048 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06891174 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

02890288 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900098 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900225 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900336 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

Celanese Canada Inc. (continued)

combined effluent

06890947 sampled: 10/01/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% MORTALITY IN FULL STRENGTH EFFLUENT

06891046 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06891172 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

02890286 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900100 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900227 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900338 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

combined effluent

06891050 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06891176 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

02890287 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900102 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900229 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

Celanese Canada Inc. (continued)

06900340 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

process effluent

emergency overflow

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890945

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : 24HR COMPOSITE
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890945

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.3
	O2 ppm	8.9		8.4
	Cond.	366		386
	Temp(C)	20.0	20.0	20.0
65	pH	8.0		8.3
	O2 ppm	8.9		8.5
	Cond.	352		377
	Temp(C)	20.0	20.0	20.0
50	pH	8.0		8.3
	O2 ppm	9.3		8.4
	Cond.	347		371
	Temp(C)	20.0	20.0	20.0
30	pH	8.1		8.2
	O2 ppm	9.2		8.7
	Cond.	340		366
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.2
	O2 ppm	9.2		8.7
	Cond.	337		362
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.2
	O2 ppm	8.8		8.7
	Cond.	333		358
	Temp(C)	20.0	20.0	20.0
Control	pH	8.0		8.2
	O2 ppm	8.8		8.4
	Cond.	319		341
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891048

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891048

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.0		7.9
	O2 ppm	9.1		8.6
	Cond.	355		348
	Temp(C)	20.0	20.0	20.0
10	pH	8.2		8.0
	O2 ppm	9.2		8.7
	Cond.	354		352
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.0
	O2 ppm	9.2		8.7
	Cond.	363		355
	Temp(C)	20.0	20.0	20.0
30	pH	8.1		8.1
	O2 ppm	9.3		8.7
	Cond.	388		359
	Temp(C)	20.0	20.0	20.0
50	pH	8.0		8.0
	O2 ppm	9.2		8.6
	Cond.	399		366
	Temp(C)	20.0	20.0	20.0
65	pH	8.0		8.0
	O2 ppm	9.4		8.5
	Cond.	405		372
	Temp(C)	20.0	20.0	20.0
100	pH	7.9		8.0
	O2 ppm	9.4		8.2
	Cond.	419		386
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891174

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1820

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891174

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.2		7.9
	O2 ppm	8.4		8.3
	Cond.	378		387
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.2		8.7
	Cond.	386		392
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.1
	O2 ppm	8.1		8.7
	Cond.	393		404
	Temp(C)	20.0	20.0	20.0
30	pH	8.1		8.1
	O2 ppm	8.4		8.7
	Cond.	398		407
	Temp(C)	20.0	20.0	20.0
50	pH	8.0		8.1
	O2 ppm	8.4		8.7
	Cond.	406		412
	Temp(C)	20.0	20.0	20.0
65	pH	8.0		8.1
	O2 ppm	8.5		8.7
	Cond.	415		418
	Temp(C)	20.0	20.0	20.0
100	pH	7.9		8.0
	O2 ppm	8.8		8.6
	Cond.	432		431
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890288

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/13/89 at: 1553

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890288

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.6			7.7
	O2 ppm	9.0			7.5
	Cond.	351			357
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.5
	O2 ppm	9.0			7.1
	Cond.	337			342
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			7.6
	O2 ppm	9.0			7.3
	Cond.	323			330
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.0			7.6
	O2 ppm	9.1			7.3
	Cond.	318			322
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.1			7.7
	O2 ppm	9.0			7.5
	Cond.	314			314
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.1			7.7
	O2 ppm	9.1			7.5
	Cond.	312			311
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900098

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1835

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900098

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.0		8.2
	O2 ppm	8.4		8.2
	Cond.	389		384
	Temp(C)	20.0	21.0	20.0
10	pH	8.0		8.1
	O2 ppm	8.3		8.2
	Cond.	402		408
	Temp(C)	20.0	21.0	20.0
20	pH	8.1		8.1
	O2 ppm	8.5		8.0
	Cond.	411		420
	Temp(C)	20.0	21.0	20.0
30	pH	8.0		8.0
	O2 ppm	8.5		7.9
	Cond.	415		429
	Temp(C)	20.0	21.0	20.0
50	pH	8.0		8.0
	O2 ppm	8.6		7.8
	Cond.	424		436
	Temp(C)	20.0	21.0	20.0
65	pH	8.0		8.0
	O2 ppm	8.8		7.6
	Cond.	432		441
	Temp(C)	20.0	21.0	20.0
100	pH	7.9		7.9
	O2 ppm	9.0		7.2
	Cond.	448		458
	Temp(C)	20.0	21.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900225

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1255

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900225

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		8.0
	O2 ppm	9.0		7.4
	Cond.	439		458
	Temp(C)	20.0	21.0	21.0
65	pH	7.8		8.0
	O2 ppm	8.9		7.7
	Cond.	424		442
	Temp(C)	20.0	21.0	21.0
50	pH	7.8		8.0
	O2 ppm	8.9		7.9
	Cond.	416		436
	Temp(C)	20.0	21.0	21.0
30	pH	7.8		8.0
	O2 ppm	8.9		8.1
	Cond.	409		430
	Temp(C)	20.0	21.0	21.0
20	pH	7.8		8.1
	O2 ppm	9.0		8.2
	Cond.	405		427
	Temp(C)	20.0	21.0	21.0
10	pH	7.8		8.1
	O2 ppm	9.0		8.4
	Cond.	402		420
	Temp(C)	20.0	21.0	21.0
Control	pH	7.8		8.0
	O2 ppm	8.9		8.3
	Cond.	396		400
	Temp(C)	20.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900336

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method :
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900336

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.5		7.9
	O2 ppm	7.3		6.4
	Cond.	460		475
	Temp(C)	21.0	22.0	22.0
65	pH	7.7		8.0
	O2 ppm	7.4		7.2
	Cond.	445		456
	Temp(C)	21.0	22.0	22.0
50	pH	7.8		8.0
	O2 ppm	8.0		7.0
	Cond.	439		447
	Temp(C)	21.0	22.0	22.0
30	pH	8.0		8.1
	O2 ppm	8.2		7.4
	Cond.	430		437
	Temp(C)	21.0	22.0	22.0
20	pH	8.1		8.1
	O2 ppm	8.4		7.7
	Cond.	425		433
	Temp(C)	21.0	22.0	22.0
10	pH	8.2		8.1
	O2 ppm	7.6		7.0
	Cond.	427		425
	Temp(C)	21.0	22.0	22.0
Control	pH	8.3		8.2
	O2 ppm	8.0		7.0
	Cond.	420		418
	Temp(C)	21.0	22.0	22.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06890947

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : 24HR COMPOSITE
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	10
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : 10% MORTALITY IN FULL STRENGTH EFFLUENT

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890947

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.3
	O2 ppm	8.8		8.5
	Cond.	332		352
	Temp(C)	20.0	20.0	20.0
65	pH	8.1		8.3
	O2 ppm	8.8		8.6
	Cond.	329		350
	Temp(C)	20.0	20.0	20.0
50	pH	8.1		8.3
	O2 ppm	9.0		8.6
	Cond.	327		350
	Temp(C)	20.0	20.0	20.0
30	pH	8.1		8.3
	O2 ppm	8.8		8.6
	Cond.	326		350
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.3
	O2 ppm	9.1		8.4
	Cond.	325		347
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.2
	O2 ppm	8.7		8.4
	Cond.	320		332
	Temp(C)	20.0	20.0	20.0
Control	pH	8.0		8.2
	O2 ppm	8.8		8.4
	Cond.	319		341
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891046

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891046

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.1
	O2 ppm	9.0		8.8
	Cond.	353		346
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.1
	O2 ppm	9.1		8.7
	Cond.	374		350
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.1
	O2 ppm	9.1		8.6
	Cond.	369		346
	Temp(C)	20.0	20.0	20.0
30	pH	8.1		8.1
	O2 ppm	9.1		8.7
	Cond.	367		343
	Temp(C)	20.0	20.0	20.0
50	pH	8.1		8.1
	O2 ppm	9.4		8.6
	Cond.	362		339
	Temp(C)	20.0	20.0	20.0
65	pH	8.1		8.1
	O2 ppm	9.6		8.5
	Cond.	359		335
	Temp(C)	20.0	20.0	20.0
100	pH	8.1		8.2
	O2 ppm	10.4		8.6
	Cond.	352		330
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891172

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1815

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891172

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.1
	O2 ppm	8.5		8.4
	Cond.	374		372
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.5		8.0
	Cond.	378		379
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.1
	O2 ppm	8.4		8.1
	Cond.	376		381
	Temp(C)	20.0	20.0	20.0
30	pH	8.2		8.0
	O2 ppm	8.5		8.2
	Cond.	373		378
	Temp(C)	20.0	20.0	20.0
50	pH	8.1		8.0
	O2 ppm	9.3		8.0
	Cond.	368		374
	Temp(C)	20.0	20.0	20.0
65	pH	8.1		8.0
	O2 ppm	9.1		8.0
	Cond.	364		372
	Temp(C)	20.0	20.0	20.0
100	pH	8.1		7.9
	O2 ppm	10.2		8.0
	Cond.	353		362
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890286

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/13/89 at: 1540

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890286

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.8			7.6
	O2 ppm	10.7			8.0
	Cond.	299			304
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.9			7.7
	O2 ppm	9.7			8.0
	Cond.	305			310
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			7.6
	O2 ppm	9.4			8.0
	Cond.	309			310
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.0			7.6
	O2 ppm	9.2			8.1
	Cond.	310			313
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.6
	O2 ppm	9.2			8.2
	Cond.	311			315
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.5
	O2 ppm	9.1			8.0
	Cond.	308			312
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900100

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1850

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900100

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.2
	O2 ppm	8.4		8.2
	Cond.	388		410
	Temp(C)	20.0	21.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.3		8.4
	Cond.	389		387
	Temp(C)	20.0	21.0	20.0
20	pH	8.1		8.1
	O2 ppm	8.5		7.6
	Cond.	387		382
	Temp(C)	20.0	21.0	20.0
30	pH	8.0		8.0
	O2 ppm	8.5		7.4
	Cond.	381		375
	Temp(C)	20.0	21.0	20.0
50	pH	8.1		8.0
	O2 ppm	8.6		7.0
	Cond.	368		361
	Temp(C)	20.0	21.0	20.0
65	pH	8.0		8.0
	O2 ppm	8.7		6.9
	Cond.	358		349
	Temp(C)	20.0	21.0	20.0
100	pH	8.0		8.0
	O2 ppm	8.8		6.8
	Cond.	335		320
	Temp(C)	20.0	21.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900227

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1320

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AV RAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900227

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.1
	O2 ppm	9.8		8.3
	Cond.	327		344
	Temp(C)	20.0	21.0	21.0
65	pH	8.0		8.1
	O2 ppm	9.2		8.4
	Cond.	353		370
	Temp(C)	20.0	21.0	21.0
50	pH	7.9		8.1
	O2 ppm	9.1		8.4
	Cond.	361		379
	Temp(C)	20.0	21.0	21.0
30	pH	7.9		8.1
	O2 ppm	8.9		8.3
	Cond.	375		394
	Temp(C)	20.0	21.0	21.0
20	pH	7.9		8.1
	O2 ppm	8.8		8.3
	Cond.	380		402
	Temp(C)	20.0	21.0	21.0
10	pH	7.8		8.0
	O2 ppm	8.7		8.1
	Cond.	382		404
	Temp(C)	20.0	21.0	21.0
Control	pH	7.9		8.0
	O2 ppm	8.6		8.3
	Cond.	387		400
	Temp(C)	20.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900338

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
Sampling Method :
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900338

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	7.9		6.8
	Cond.	360		350
	Temp(C)	21.0	22.0	22.0
65	pH	8.2		8.2
	O2 ppm	8.2		7.1
	Cond.	382		378
	Temp(C)	21.0	22.0	22.0
50	pH	8.2		8.2
	O2 ppm	8.5		7.7
	Cond.	390		390
	Temp(C)	21.0	22.0	22.0
30	pH	8.2		8.2
	O2 ppm	8.1		7.5
	Cond.	402		402
	Temp(C)	21.0	22.0	22.0
20	pH	8.2		8.2
	O2 ppm	8.6		7.5
	Cond.	407		410
	Temp(C)	21.0	22.0	22.0
10	pH	8.2		7.9
	O2 ppm	8.2		7.1
	Cond.	403		403
	Temp(C)	21.0	22.0	22.0
Control	pH	8.3		8.2
	O2 ppm	8.0		7.0
	Cond.	420		418
	Temp(C)	21.0	22.0	22.0

TOXICITY TEST REPORT Sample: 06891050

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891050

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.1
	O2 ppm	9.1		8.5
	Cond.	369		348
	Temp(C)	20.0	20.0	20.0
10	pH	8.2		8.1
	O2 ppm	9.1		8.4
	Cond.	351		347
	Temp(C)	20.0	20.0	20.0
20	pH	8.2		8.1
	O2 ppm	9.4		8.6
	Cond.	348		345
	Temp(C)	20.0	20.0	20.0
30	pH	8.2		8.1
	O2 ppm	9.6		8.6
	Cond.	350		343
	Temp(C)	20.0	20.0	20.0
50	pH	8.2		8.1
	O2 ppm	9.8		8.7
	Cond.	354		339
	Temp(C)	20.0	20.0	20.0
65	pH	8.2		8.1
	O2 ppm	10.0		8.8
	Cond.	360		336
	Temp(C)	20.0	20.0	20.0
100	pH	8.2		8.1
	O2 ppm	10.4		8.6
	Cond.	355		330
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891176

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1810

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891176

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		7.9
	O2 ppm	8.4		8.3
	Cond.	374		376
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.6		8.7
	Cond.	378		375
	Temp(C)	20.0	20.0	20.0
20	pH	8.1		8.1
	O2 ppm	8.8		8.6
	Cond.	378		384
	Temp(C)	20.0	20.0	20.0
30	pH	8.1		8.1
	O2 ppm	8.9		8.5
	Cond.	377		383
	Temp(C)	20.0	20.0	20.0
50	pH	8.1		8.1
	O2 ppm	9.2		8.5
	Cond.	371		381
	Temp(C)	20.0	20.0	20.0
65	pH	8.1		8.1
	O2 ppm	9.6		8.5
	Cond.	370		380
	Temp(C)	20.0	20.0	20.0
100	pH	8.0		8.1
	O2 ppm	10.3		8.5
	Cond.	362		373
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890287

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/13/89 at: 1546

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890287

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.9			7.7
	O2 ppm	11.2			8.0
	Cond.	297			303
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	8.0			7.7
	O2 ppm	9.8			7.9
	Cond.	306			309
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			7.7
	O2 ppm	9.5			7.9
	Cond.	308			314
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.1			7.7
	O2 ppm	9.2			8.0
	Cond.	310			314
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.1			7.6
	O2 ppm	9.1			7.8
	Cond.	310			313
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.8
	O2 ppm	9.1			8.2
	Cond.	310			313
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900102

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1915

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900102

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.2
	O2 ppm	8.4		8.2
	Cond.	388		410
	Temp(C)	20.0	21.0	20.0
10	pH	8.1		8.2
	O2 ppm	8.4		8.0
	Cond.	392		421
	Temp(C)	20.0	21.0	20.0
20	pH	8.1		8.2
	O2 ppm	8.5		8.0
	Cond.	388		393
	Temp(C)	20.0	21.0	20.0
30	pH	8.1		8.2
	O2 ppm	8.5		7.8
	Cond.	381		386
	Temp(C)	20.0	21.0	20.0
50	pH	8.1		8.2
	O2 ppm	8.6		7.8
	Cond.	369		374
	Temp(C)	20.0	21.0	20.0
65	pH	8.0		8.2
	O2 ppm	8.7		7.7
	Cond.	360		367
	Temp(C)	20.0	21.0	20.0
100	pH	8.0		8.1
	O2 ppm	9.0		7.6
	Cond.	339		354
	Temp(C)	20.0	21.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900229

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1340

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900229

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.1
	O2 ppm	10.1		8.2
	Cond.	322		342
	Temp(C)	20.0	21.0	21.0
65	pH	8.0		8.1
	O2 ppm	9.6		8.2
	Cond.	349		371
	Temp(C)	20.0	21.0	21.0
50	pH	7.9		8.1
	O2 ppm	9.1		8.3
	Cond.	360		380
	Temp(C)	20.0	21.0	21.0
30	pH	7.9		8.1
	O2 ppm	9.0		8.4
	Cond.	375		383
	Temp(C)	20.0	21.0	21.0
20	pH	7.9		8.1
	O2 ppm	8.9		8.4
	Cond.	381		393
	Temp(C)	20.0	21.0	21.0
10	pH	7.8		8.0
	O2 ppm	8.9		8.1
	Cond.	388		398
	Temp(C)	20.0	21.0	21.0
Control	pH	7.9		8.1
	O2 ppm	8.8		8.4
	Cond.	387		400
	Temp(C)	20.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900340

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method :
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900340

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	8.8		7.5
	Cond.	347		353
	Temp(C)	21.0	22.0	22.0
65	pH	8.1		8.2
	O2 ppm	8.2		7.8
	Cond.	371		374
	Temp(C)	21.0	22.0	22.0
50	pH	8.2		8.2
	O2 ppm	8.6		7.9
	Cond.	382		387
	Temp(C)	21.0	22.0	22.0
30	pH	8.2		8.2
	O2 ppm	8.5		7.8
	Cond.	398		402
	Temp(C)	21.0	22.0	22.0
20	pH	8.3		8.1
	O2 ppm	8.0		7.8
	Cond.	405		409
	Temp(C)	21.0	22.0	22.0
10	pH	8.3		8.1
	O2 ppm	8.7		7.9
	Cond.	411		414
	Temp(C)	21.0	22.0	22.0
Control	pH	8.3		8.2
	O2 ppm	8.0		7.0
	Cond.	420		418
	Temp(C)	21.0	22.0	22.0

COMPANY: Chinook Chemicals Company, Sombra (5600002)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Chinook Chemicals Company. Five of six combined effluent samples were determined to have been non-acutely lethal to test fish. The remaining sample produced a 96 hour LC50 of >100 %.

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combined effluent

03890220 sampled: 10/17/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890289 sampled: 11/21/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890379 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900065 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900131 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900221 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

emergency overflow

rain gauge

intake water

Chinook Chemicals Company (continued)

MISA Trout

TOXICITY TEST REPORT Sample: 03890220

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Dawes
Date Collected : 10/17/89
Received : 10/18/89
Tested : 10/18/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890220

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	8.7					9.4
	Cond.	571					551
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
10	pH	7.8					8.4
	O2 ppm	8.8					9.4
	Cond.	548					536
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
20	pH	7.8					8.3
	O2 ppm	8.9					9.4
	Cond.	535					521
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
40	pH	7.8					8.3
	O2 ppm	9.1					9.4
	Cond.	498					488
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
65	pH	7.9					8.2
	O2 ppm	9.5					9.2
	Cond.	450					441
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
100	pH	8.0					7.9
	O2 ppm	9.9					8.9
	Cond.	376					376
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890289

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 11/21/89
Received : 11/22/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0
100	0	0	0	0	0	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890289

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.2					8.6
	O2 ppm	9.2					9.7
	Cond.	562					567
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
10	pH	7.9					8.6
	O2 ppm	9.1					9.5
	Cond.	538					536
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
20	pH	7.8					8.6
	O2 ppm	9.1					9.6
	Cond.	517					516
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
40	pH	7.8					8.5
	O2 ppm	9.2					9.4
	Cond.	467					473
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
65	pH	7.9					8.5
	O2 ppm	9.3					9.7
	Cond.	409					416
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
100	pH	8.0					8.2
	O2 ppm	9.8					9.3
	Cond.	323					322
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890379

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 12/19/89
Received : 12/20/89
Tested : 12/21/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890379

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				8.0
	O2 ppm	10.5				9.3
	Cond.	961				954
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.8				8.3
	O2 ppm	10.0				9.3
	Cond.	792				804
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.3
	O2 ppm	9.9				8.3
	Cond.	702				705
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.3
	O2 ppm	9.6				8.4
	Cond.	624				626
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	9.3				9.4
	Cond.	590				585
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.5
	O2 ppm	9.1				9.7
	Cond.	587				565
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	9.1				8.7
	Cond.	570				537
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900065

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/25/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900065

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				7.9
	O2 ppm	9.1				9.8
	Cond.	703				710
	Temp(C)	15.0	14.5	14.5	14.5	15.0
Control	pH	7.9				8.4
	O2 ppm	8.5				9.8
	Cond.	545				535
	Temp(C)	15.0	14.5	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900131

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/21/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900131

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				7.6
	O2 ppm	8.6				8.5
	Cond.	1713				1756
	Temp(C)	15.0	14.0	14.5	14.0	14.0
100	pH	7.8				7.5
	O2 ppm	8.6				8.1
	Cond.	1740				1744
	Temp(C)	15.0	14.0	14.5	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	7.4				10.2
	Cond.	544				518
	Temp(C)	15.0	14.0	14.5	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	7.8				10.2
	Cond.	543				522
	Temp(C)	15.0	14.0	14.5	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900221

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 03/20/90
Received : 03/21/90
Tested : 03/21/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900221

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				8.0
	O2 ppm	10.5				9.2
	Cond.	518				524
	Temp(C)	15.0	14.5	14.5	14.5	14.5
100	pH	7.6				8.0
	O2 ppm	10.5				9.3
	Cond.	518				523
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.4
	O2 ppm	8.4				9.4
	Cond.	551				551
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.4
	O2 ppm	8.4				9.4
	Cond.	554				547
	Temp(C)	15.0	14.5	14.5	14.5	14.5

COMPANY: Chinook Chemicals Company, Sombra (5600002)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Results for six Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by Chinook Chemicals Company of Sombra. The toxicity of the effluent samples was variable. Three samples were not acutely lethal to Daphnia, two samples had LC50s greater than 100%, and one sample had an LC50 of 17.1%.

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combined effluent

03890220 sampled: 10/17/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890289 sampled: 11/21/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890379 sampled: 12/19/89 LC50: 17.1 %
95% fid. limits: 13.0 - 22.5 % slope: 4.4
comments: Lethal

03900065 sampled: 01/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900131 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900221 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

emergency overflow

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890220

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Dawes
Date Collected : 10/17/89
Received : 10/18/89
Tested : 10/18/89 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	1	8
13	0	0	0	1	8
25	0	0	0	1	8
50	0	0	1	1	8
100	0	0	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890220

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.7			9.3
	Cond.	296			302
	Temp(C)	20.5	20.0	19.5	20.0
6	pH	8.4			8.3
	O2 ppm	8.5			8.7
	Cond.	302			308
	Temp(C)	20.5	20.0	19.5	20.0
13	pH	8.3			8.3
	O2 ppm	8.6			9.0
	Cond.	303			304
	Temp(C)	20.5	20.0	19.5	20.0
25	pH	8.3			8.2
	O2 ppm	8.7			9.0
	Cond.	312			311
	Temp(C)	20.5	20.0	19.5	20.0
50	pH	8.2			8.2
	O2 ppm	8.9			9.0
	Cond.	328			328
	Temp(C)	20.5	20.0	19.5	20.0
100	pH	8.0			8.1
	O2 ppm	9.3			8.9
	Cond.	364			364
	Temp(C)	20.5	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890289

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 11/21/89
Received : 11/22/89
Tested : 11/22/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890289

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.2
	O2 ppm	9.1			10.2
	Cond.	293			315
	Temp(C)	19.5	19.5	20.0	20.0
6	pH	8.3			8.2
	O2 ppm	9.3			9.9
	Cond.	305			309
	Temp(C)	19.5	19.5	20.0	20.0
13	pH	8.3			8.3
	O2 ppm	9.1			9.7
	Cond.	306			306
	Temp(C)	19.5	19.5	20.0	20.0
25	pH	8.2			8.2
	O2 ppm	9.3			9.5
	Cond.	306			309
	Temp(C)	19.5	19.5	20.0	20.0
50	pH	8.2			8.2
	O2 ppm	9.5			9.3
	Cond.	308			311
	Temp(C)	19.5	19.5	20.0	20.0
100	pH	8.0			8.1
	O2 ppm	10.1			9.1
	Cond.	313			313
	Temp(C)	19.5	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890379

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 12/19/89
Received : 12/20/89
Tested : 12/21/89 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	100
50	0	12	12	100
25	0	9	11	91
13	0	0	2	16
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 17.1 %

95% fid. limits : 13.0 - 22.5 %

Comments : Lethal

SLOPE of Mortality Curve : 4.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890379

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9	7.9	
	O2 ppm	10.3	8.9	
	Cond.	921	925	
	Temp(C)	19.5	19.5	
50	pH	8.1	8.1	
	O2 ppm	9.7	8.4	
	Cond.	625	619	
	Temp(C)	19.5	19.5	
25	pH	8.3		8.3
	O2 ppm	9.8		8.8
	Cond.	461		468
	Temp(C)	19.5	19.5	19.0
13	pH	8.2		8.3
	O2 ppm	9.3		8.6
	Cond.	390		383
	Temp(C)	19.5	19.5	19.0
6	pH	8.4		8.3
	O2 ppm	9.9		8.5
	Cond.	345		344
	Temp(C)	19.5	19.5	19.0
Control	pH	8.4		8.4
	O2 ppm	9.6		8.9
	Cond.	308		310
	Temp(C)	19.5	19.5	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900065

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/25/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	1	8
25	0	0	1	8
13	0	2	2	16
6	0	1	1	8
Control	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900065

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.0
	O2 ppm	9.2		8.1
	Cond.	687		675
	Temp(C)	20.0	20.0	20.0
50	pH	8.3		8.2
	O2 ppm	9.1		8.2
	Cond.	491		489
	Temp(C)	20.0	20.0	20.0
25	pH	8.4		8.3
	O2 ppm	8.8		8.2
	Cond.	400		398
	Temp(C)	20.0	20.0	20.0
13	pH	8.4		8.4
	O2 ppm	8.8		8.1
	Cond.	351		349
	Temp(C)	20.0	20.0	20.0
6	pH	8.4		8.4
	O2 ppm	8.8		8.1
	Cond.	324		324
	Temp(C)	20.0	20.0	20.0
Control	pH	8.5		8.4
	O2 ppm	8.7		8.2
	Cond.	299		300
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900131

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/21/90 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900131

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		7.2
	O2 ppm	8.7		3.6
	Cond.	1732		1700
	Temp(C)	19.5	20.0	20.0
50	pH	8.0		7.5
	O2 ppm	8.6		4.4
	Cond.	1038		1025
	Temp(C)	19.5	20.0	20.0
25	pH	8.2		7.7
	O2 ppm	8.6		5.7
	Cond.	688		667
	Temp(C)	19.5	20.0	20.0
13	pH	8.3		7.9
	O2 ppm	8.6		7.2
	Cond.	510		498
	Temp(C)	19.5	20.0	20.0
6	pH	8.3		8.1
	O2 ppm	8.6		8.0
	Cond.	405		390
	Temp(C)	19.5	20.0	20.0
Control	pH	8.4		8.3
	O2 ppm	8.6		8.6
	Cond.	305		304
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900221

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 03/20/90
Received : 03/21/90
Tested : 03/21/90 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900221

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		7.4
	O2 ppm	8.2		4.0
	Cond.	511		488
	Temp(C)	20.0	20.0	20.0
50	pH	7.8		7.5
	O2 ppm	8.6		4.9
	Cond.	410		399
	Temp(C)	20.0	20.0	20.0
25	pH	7.9		7.7
	O2 ppm	8.9		6.5
	Cond.	363		359
	Temp(C)	20.0	20.0	20.0
13	pH	7.9		7.9
	O2 ppm	9.0		7.6
	Cond.	337		334
	Temp(C)	20.0	20.0	20.0
6	pH	7.9		8.0
	O2 ppm	9.0		8.2
	Cond.	326		320
	Temp(C)	20.0	20.0	20.0
Control	pH	8.0		8.2
	O2 ppm	8.9		8.5
	Cond.	311		306
	Temp(C)	20.0	20.0	20.0

COMPANY: Cornwall Chemicals Limited, Cornwall (33050006)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for seven trout bioassays, conducted on process effluent samples collected between October 1989 and March 1990, were provided by Cornwall Chemicals Limited. Four of the samples, collected from control point 0100, were determined to have been acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 57.0 % (October), 80.6 % (December), 16.7 % (January), and 84.4 % (February). The remaining three samples were determined to have been non-acutely lethal to test fish.

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process effluent

06890964 sampled: 10/02/89 LC50: 57.0 %
95% fid. limits: 65.0 - 50.0 %
comments: pH DECREASED IN 50&65% CONC. DURING 72&96 HRS

06891053 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891181 sampled: 12/05/89 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments: 100% MORTALITY IN FULL STRENGTH EFFLUENT

06900028 sampled: 01/08/90 LC50: 16.7 %
95% fid. limits: 19.6 - 14.2 %
comments: 70% MORTALITY IN 20% CONCENTRATION.

06900025 sampled: 01/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900220 sampled: 02/05/90 LC50: 84.4 %
95% fid. limits: 0.0 - 0.0 %
comments: 90% MORTALITY IN FULL STRENGTH EFFLUENT

06900343 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

rain gauge

intake water

MISA Trout

TOXICITY TEST REPORT Sample: 06890964

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 10/02/89
Received : 10/05/89
Tested : 10/05/89 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	100
65	0	0	0	0	10	100
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 57.0 %

95% fid. limits : 65.0 - 50.0 %

Comments : pH DECREASED IN 50&65% CONC. DURING 72&96 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : BINOMIAL

TOXICITY TEST PARAMETERS

Sample Number: 06890964

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	5.4	5.7			
	O2 ppm	7.2	8.5			
	Cond.	964				
	Temp(C)	15.0	15.0			
65	pH	6.2	6.9	6.5	4.1	3.8
	O2 ppm	7.8	7.9	7.8	10.0	10.2
	Cond.	824				939
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	6.5	6.9	7.0	3.8	3.8
	O2 ppm	8.2	6.8	8.9	9.1	9.7
	Cond.	698				796
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	6.8	7.7	7.8	7.5	7.4
	O2 ppm	8.5	8.4	9.0	10.0	9.7
	Cond.	585				597
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	6.9	7.7	7.8	7.5	7.5
	O2 ppm	9.4	8.7	8.2	9.9	9.7
	Cond.	507				524
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.8	7.9	7.6	7.7
	O2 ppm	9.5	8.5	8.3	9.8	9.5
	Cond.	439				447
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.9	7.9	7.4	7.7
	O2 ppm	9.6	8.3	8.3	9.6	9.6
	Cond.	385				375
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891053

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 11/06/89
Received : 11/08/89
Tested : 11/08/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891053

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	8.2	8.4	8.0	7.8	8.1
	O2 ppm	7.6	9.5	8.2	8.1	9.5
	Cond.	317				325
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	8.3	8.3	7.9	7.9	8.0
	O2 ppm	8.8	8.5	8.4	7.8	9.2
	Cond.	381				386
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.3	8.2	7.8	7.8	8.0
	O2 ppm	9.7	9.1	8.4	8.6	9.4
	Cond.	434				442
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.2	8.2	7.7	7.7	8.0
	O2 ppm	9.7	9.2	8.2	8.0	9.6
	Cond.	486				494
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.2	8.1	7.8	7.7	7.8
	O2 ppm	10.2	7.0	8.1	7.8	8.4
	Cond.	570				586
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.1	8.1	7.8	7.7	7.8
	O2 ppm	9.7	7.5	7.7	8.2	9.2
	Cond.	657				678
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.1	8.1	7.8	7.7	7.8
	O2 ppm	9.9	8.7	8.0	8.3	8.8
	Cond.	815				842
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891181

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/05/89 at: 1900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	10	10	10	10	100

96 Hour LC50 : 80.6 %

95% fid. limits : 65.0 - 100.0 %

Comments : 100% MORTALITY IN FULL STRENGTH EFFLUENT

SLOPE of Mortality Curve :
LC50 Calculated By : BINOMIAL

TOXICITY TEST PARAMETERS

Sample Number: 06891181

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	8.0	7.6	7.7	8.0	8.0
	O2 ppm	9.2	8.3	8.2	8.7	8.7
	Cond.	422				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.8	7.9	8.0	8.0
	O2 ppm	8.7	8.6	8.8	9.1	8.8
	Cond.	800				670
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.0	7.8	7.9	8.0	8.0
	O2 ppm	8.5	8.1	9.0	8.2	8.2
	Cond.	965				960
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.0	7.7	8.0	8.0	7.9
	O2 ppm	8.4	8.3	9.2	8.7	8.8
	Cond.	1232				1262
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.1	7.9	7.9	7.9	7.7
	O2 ppm	8.5	8.3	8.8	8.6	8.2
	Cond.	1648				1756
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.5	7.8	7.7	8.0	7.9
	O2 ppm	8.7	8.4	8.2	8.1	8.0
	Cond.	2860				2180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.5	8.0			
	O2 ppm	8.9	8.3			
	Cond.	3420	3190			
	Temp(C)	15.0	15.0			

MISA Trout

TOXICITY TEST REPORT Sample: 06900028

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : F. O'BRIEN
Date Collected : 01/08/90
Received : 01/09/90
Tested : 01/09/90 at: 2030

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	1	7	70
30	0	2	10	100
50	0	10	10	100
65	0	10	10	100
100	0	10	10	100

48 Hour LC50 : 16.7 %

95% fid. limits : 19.6 - 14.2 %

Comments : 70% MORTALITY IN 20% CONCENTRATION.

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06900028

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.0		8.1
	O2 ppm	8.7		9.1
	Cond.	350		379
	Temp(C)	20.0	21.0	21.0
10	pH	7.8		8.1
	O2 ppm	9.4		8.5
	Cond.	780		586
	Temp(C)	20.0	21.0	21.0
20	pH	7.6		7.7
	O2 ppm	9.4		7.0
	Cond.	800		762
	Temp(C)	20.0	21.0	21.0
30	pH	7.4		7.2
	O2 ppm	9.3		2.3
	Cond.	969		985
	Temp(C)	20.0	21.0	21.0
50	pH	7.2		7.0
	O2 ppm	9.4		1.0
	Cond.	1329		1406
	Temp(C)	20.0	21.0	21.0
65	pH	7.0		7.0
	O2 ppm	9.5		0.8
	Cond.	1670		1721
	Temp(C)	20.0	21.0	21.0
100	pH	6.8		6.9
	O2 ppm	9.8		0.8
	Cond.	2330		2420
	Temp(C)	20.0	21.0	21.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900025

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : F. O'BRIEN
Date Collected : 01/08/90
Received : 01/09/90
Tested : 01/09/90 at: 1830

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900025

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.7	7.9	7.9	7.8	7.9
	O2 ppm	8.7	8.4	8.4	9.6	9.5
	Cond.	348				356
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	7.5	7.7	7.7	7.2
	O2 ppm	8.7	8.2	8.4	9.6	7.8
	Cond.	534				561
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.3	7.6	7.7	7.6	7.2
	O2 ppm	10.2	8.4	8.5	9.7	8.1
	Cond.	713				789
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.2	7.5	7.7	7.5	7.2
	O2 ppm	10.7	8.6	8.7	9.4	8.0
	Cond.	969				1001
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.0	7.6	7.8	7.4	7.2
	O2 ppm	10.8	8.7	9.2	9.3	8.1
	Cond.	1389				1458
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	6.9	7.2	7.7	7.2	7.0
	O2 ppm	10.8	8.9	9.1	9.4	7.7
	Cond.	1566				1707
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	6.7	7.0	7.3	7.1	6.8
	O2 ppm	9.7	8.7	8.7	9.1	7.0
	Cond.	2260				2880
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900220

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	7	8	8	9	90
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 84.4 %

95% fid. limits : 0.0 - 0.0 %

Comments : 90% MORTALITY IN FULL STRENGTH EFFLUENT

SLOPE of Mortality Curve :
LC50 Calculated By : BINOMIAL

TOXICITY TEST PARAMETERS

Sample Number: 06900220

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	5.6	5.9	5.8	5.8	5.8
	O2 ppm	9.9	9.3	8.5	8.6	9.3
	Cond.	2150				1545
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	6.3	6.7	6.7	6.6	6.5
	O2 ppm	9.8	8.9	8.9	8.7	9.2
	Cond.	1491				1315
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	6.4	6.8	6.9	6.9	6.8
	O2 ppm	9.6	8.4	8.5	8.8	8.9
	Cond.	1266				937
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	6.8	7.6	7.7	7.7	7.8
	O2 ppm	9.4	8.9	8.6	8.9	9.1
	Cond.	904				757
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	6.9	7.8	7.9	7.9	7.9
	O2 ppm	9.6	9.2	8.8	9.0	9.0
	Cond.	733				578
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	8.0	8.0	7.9	8.0
	O2 ppm	9.5	9.3	9.0	9.1	8.7
	Cond.	571				415
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0	8.1
	O2 ppm	9.8	9.3	9.0	8.9	9.0
	Cond.	382				410
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900343

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900343

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	5.8	6.3	6.1	6.2	5.8
	O2 ppm	9.2	9.7	8.3	10.6	8.9
	Cond.	8150				7910
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	6.5	7.3	7.2	7.2	6.9
	O2 ppm	9.6	9.8	8.8	10.2	9.0
	Cond.	5090				5330
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	6.7	7.6	7.4	7.5	7.3
	O2 ppm	9.6	9.6	8.5	10.0	8.6
	Cond.	3950				4180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.0	7.7	7.6	7.7	7.5
	O2 ppm	9.6	9.7	8.4	10.0	9.2
	Cond.	2600				2790
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.2	8.0	7.8	7.9	7.8
	O2 ppm	9.6	9.5	8.5	10.2	9.8
	Cond.	1906				1972
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	8.1	7.9	7.9	7.9
	O2 ppm	9.3	9.6	8.7	10.0	9.8
	Cond.	1224				1200
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.8	8.1	8.1	7.9	7.9
	O2 ppm	8.3	9.2	9.2	10.0	10.0
	Cond.	416				402
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: Cornwall Chemicals Limited, Cornwall (33050006)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
Results for six Daphnia magna acute lethality toxicity tests conducted on samples of process effluent collected between October 1989 and March 1990 were submitted by Cornwall Chemicals Limited of Sarnia. All six samples were toxic to Daphnia with LC50 values ranging between 14 and 61% effluent.

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process effluent

06890965 sampled: 10/02/89 LC50: 39.0 %
95% fid. limits: 30.0 - 50.0 %
comments: 100% MORTALITY IN 50% CONCENTRATION

06891054 sampled: 11/06/89 LC50: 93.3 %
95% fid. limits: 75.7 - 178.8 %
comments: 60% MORTALITY IN FULL STRENGTH EFFLUENT

06891182 sampled: 12/05/89 LC50: 14.0 %
95% fid. limits: 10.0 - 20.0 %
comments: 100% MORTALITY IN 20% CONCENTRATION

06900028 sampled: 01/08/90 LC50: 16.7 %
95% fid. limits: 14.2 - 19.6 %
comments: 70 % MORTALITY IN 20 % CONCENTRATION

06900221 sampled: 02/05/90 LC50: 33.8 %
95% fid. limits: 29.5 - 38.5 %
comments: 100% MORTALITY IN 50% TEST CONCENTRATION

06900344 sampled: 03/05/90 LC50: 29.4 %
95% fid. limits: 25.5 - 33.9 %
comments: 60% MORTALITY IN 30% TEST CONCENTRATION

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890965

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 10/02/89
Received : 10/05/89
Tested : 10/05/89 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	10	10	100
65	0	0	10	100
50	0	0	10	100
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 39.0 %

95% fid. limits : 30.0 - 50.0 %

Comments : 100% MORTALITY IN 50% CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : BINOMIAL

TOXICITY TEST PARAMETERS

Sample Number: 06890965

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	5.4		4.2
	O2 ppm	6.4		7.6
	Cond.	1027		981
	Temp(C)	21.0	21.0	21.0
65	pH	6.3		4.0
	O2 ppm	7.5		6.2
	Cond.	784		800
	Temp(C)	21.0	21.0	21.0
50	pH	6.5		4.0
	O2 ppm	7.8		4.0
	Cond.	685		695
	Temp(C)	21.0	21.0	21.0
30	pH	6.8		6.9
	O2 ppm	8.2		3.7
	Cond.	553		548
	Temp(C)	21.0	21.0	21.0
20	pH	7.0		7.6
	O2 ppm	8.6		6.8
	Cond.	487		469
	Temp(C)	21.0	21.0	21.0
10	pH	7.3		8.2
	O2 ppm	8.6		8.9
	Cond.	420		404
	Temp(C)	21.0	21.0	21.0
Control	pH	8.0		8.1
	O2 ppm	9.1		8.9
	Cond.	332		305
	Temp(C)	21.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891054

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 11/06/89
Received : 11/08/89
Tested : 11/08/89 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	6	6	60
65	0	0	1	10
50	0	0	1	10
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 93.3 %

95% fid. limits : 75.7 - 178.8 %

Comments : 60% MORTALITY IN FULL STRENGTH EFFLUENT

SLOPE of Mortality Curve :
LC50 Calculated By : PROBIT ANALYSIS

TOXICITY TEST PARAMETERS

Sample Number: 06891054

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.4		7.9
	O2 ppm	9.5		8.6
	Cond.	786		873
	Temp(C)	20.0	20.0	20.0
65	pH	7.5		7.9
	O2 ppm	9.2		8.5
	Cond.	617		702
	Temp(C)	20.0	20.0	20.0
50	pH	7.7		7.9
	O2 ppm	9.0		8.3
	Cond.	590		621
	Temp(C)	20.0	20.0	20.0
30	pH	7.8		7.9
	O2 ppm	8.8		8.2
	Cond.	512		531
	Temp(C)	20.0	20.0	20.0
20	pH	7.9		8.0
	O2 ppm	8.9		8.5
	Cond.	462		482
	Temp(C)	20.0	20.0	20.0
10	pH	7.9		8.0
	O2 ppm	8.9		8.2
	Cond.	411		422
	Temp(C)	20.0	20.0	20.0
Control	pH	8.0		7.8
	O2 ppm	8.7		8.0
	Cond.	364		364
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891182

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 12/05/89
Received : 12/05/89
Tested : 12/06/89 at: 900

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	10	10	100
30	0	10	10	100
50	0	10	10	100
65	0	10	10	100
100	0	10	10	100

48 Hour LC50 : 14.0 %

95% fid. limits : 10.0 - 20.0 %

Comments : 100% MORTALITY IN 20% CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : BINOMIAL

TOXICITY TEST PARAMETERS

Sample Number: 06891182

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.0		8.1
	O2 ppm	8.7		8.9
	Cond.	359		420
	Temp(C)	20.0	20.0	20.0
10	pH	8.2		8.2
	O2 ppm	8.7		8.6
	Cond.	759		694
	Temp(C)	20.0	20.0	20.0
20	pH	8.3		7.9
	O2 ppm	8.6		7.3
	Cond.	937		916
	Temp(C)	20.0	20.0	20.0
30	pH	8.4		7.8
	O2 ppm	8.5		6.4
	Cond.	1199		1197
	Temp(C)	20.0	20.0	20.0
50	pH	8.5		7.5
	O2 ppm	8.5		2.9
	Cond.	1699		1640
	Temp(C)	20.0	20.0	20.0
65	pH	8.5		7.4
	O2 ppm	8.5		1.6
	Cond.	2290		1987
	Temp(C)	20.0	20.0	20.0
100	pH	8.6		7.5
	O2 ppm	8.2		0.9
	Cond.	3210		3090
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900028

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : F. O'Brien
Date Collected : 01/08/90
Received : 01/09/90
Tested : 01/09/90 at: 2030

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	10	10	100
65	0	10	10	100
50	0	10	10	100
30	0	2	10	100
20	0	1	7	70
10	0	0	0	0
Control				0

48 Hour LC50 : 16.7 %

95% fid. limits : 14.2 - 19.6 %

Comments : 70 % MORTALITY IN 20 % CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KABER

TOXICITY TEST PARAMETERS

Sample Number: 06900028

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	6.8		6.9
	O2 ppm	9.8		0.8
	Cond.	2330		2420
	Temp(C)	20.0	21.0	21.0
65	pH	7.0		7.0
	O2 ppm	9.5		0.8
	Cond.	1670		1721
	Temp(C)	20.0	21.0	21.0
50	pH	7.2		7.0
	O2 ppm	9.4		1.0
	Cond.	1329		1406
	Temp(C)	20.0	21.0	21.0
30	pH	7.4		7.2
	O2 ppm	9.3		2.3
	Cond.	969		985
	Temp(C)	20.0	21.0	21.0
20	pH	7.6		7.7
	O2 ppm	9.4		7.0
	Cond.	800		762
	Temp(C)	20.0	21.0	21.0
10	pH	7.8		8.1
	O2 ppm	9.4		8.5
	Cond.	78		586
	Temp(C)	20.0	21.0	21.0
Control	pH			8.1
	O2 ppm			9.1
	Cond.			379
	Temp(C)		21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900221

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	10	10	100
65	0	10	10	100
50	0	10	10	100
30	0	0	3	30
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 33.8 %

95% fid. limits : 29.5 - 38.5 %

Comments : 100% MORTALITY IN 50% TEST CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06900221

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	5.7		4.8
	O2 ppm	9.2		1.6
	Cond.	2150		2210
	Temp(C)	20.0	21.0	21.0
65	pH	6.3		6.3
	O2 ppm	8.8		1.7
	Cond.	1468		1505
	Temp(C)	20.0	21.0	21.0
50	pH	6.5		6.5
	O2 ppm	8.7		2.0
	Cond.	1232		1258
	Temp(C)	20.0	21.0	21.0
30	pH	6.9		7.6
	O2 ppm	8.5		6.5
	Cond.	793		831
	Temp(C)	20.0	21.0	21.0
20	pH	6.9		7.7
	O2 ppm	8.5		7.3
	Cond.	727		758
	Temp(C)	20.0	21.0	21.0
10	pH	7.2		7.9
	O2 ppm	8.8		8.2
	Cond.	551		569
	Temp(C)	20.0	21.0	21.0
Control	pH	7.8		8.1
	O2 ppm	8.8		8.4
	Cond.	402		419
	Temp(C)	20.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900344

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	10	10	100
65	0	10	10	100
50	0	7	10	100
30	0	2	6	60
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 29.4 %

95% fid. limits : 25.5 - 33.9 %

Comments : 60% MORTALITY IN 30% TEST CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06900344

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	5.9		4.8
	O2 ppm	9.1		0.6
	Cond.	8090		8190
	Temp(C)	21.0	22.0	22.0
65	pH	6.5		5.5
	O2 ppm	8.5		0.5
	Cond.	5580		5540
	Temp(C)	21.0	22.0	22.0
50	pH	6.7		6.5
	O2 ppm	8.4		0.5
	Cond.	4360		4380
	Temp(C)	21.0	22.0	22.0
30	pH	7.1		7.5
	O2 ppm	8.1		3.4
	Cond.	2750		2740
	Temp(C)	21.0	22.0	22.0
20	pH	7.3		7.9
	O2 ppm	8.2		7.4
	Cond.	1814		1844
	Temp(C)	21.0	22.0	22.0
10	pH	7.6		8.0
	O2 ppm	8.0		7.6
	Cond.	1152		1317
	Temp(C)	21.0	22.0	22.0
Control	pH	8.2		8.1
	O2 ppm	8.0		8.1
	Cond.	408		418
	Temp(C)	21.0	22.0	22.0

COMPANY: Courtaulds Fibres Canada, Cornwall
(1900000)
(now with Cornwall Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for thirty-eight trout bioassays, conducted on effluent samples collected between October 1989 and March 1990, were provided by Courtaulds Fibres Canada. All twelve samples of process effluent collected from control point 0100 and 0300 were determined to have been acutely lethal to test fish. For samples collected from 0100, statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 6.3 %, 3.0 %, 3.9 %, 12.0 %, 1.0 % and 2.0 %. For samples collected from 0300, statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 61.0 %, 8.8 %, 12.0 %, 14.1 %, 18.4 % and 12.6 %. All the samples collected from the four combined effluent discharges were determined to have been non-acutely lethal to test fish except for one sample. The Ministry audit sample,collected in November from combined effluent 0700, had a 96 hour LC50 of 53.0 %. Both intake water samples were determined to have been non-acutely lethal.

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process effluent

03890221 sampled: 10/18/89 LC50: 6.3 %
95% fid. limits: 4.7 - 8.5 % slope: 5.5
comments:

01890269 sampled: 11/21/89 LC50: 2.7 %
95% fid. limits: 2.1 - 3.6 %
comments: MISA audit sample.

03890296 sampled: 11/22/89 LC50: 3.0 %
95% fid. limits: 1.9 - 4.6 % slope: 3.4
comments:

03890384 sampled: 12/19/89 LC50: 3.9 %
95% fid. limits: 2.6 - 5.6 % slope: 3.4
comments:

03900041 sampled: 01/16/90 LC50: 12.0 %
95% fid. limits: 9.1 - 15.7 % slope: 5.5
comments:

03900162 sampled: 02/27/90 LC50: 1.0 %
95% fid. limits: 0.1 - 1.9 % slope: 2.1
comments:

03900228 sampled: 03/20/90 LC50: 2.0 %
95% fid. limits: 1.2 - 3.1 % slope: 4.2
comments: Lethal

pr 200

03890227 sampled: 10/18/89 LC50: 25.3 %
95% fid. limits: 18.8 - 33.9 % slope: 5.5
comments:

process effluent

03890222 sampled: 10/18/89 LC50: 61.0 %
95% fid. limits: 40.0 - 65.0 %
comments:

01890270 sampled: 11/21/89 LC50: 3.3 %
95% fid. limits: 2.1 - 5.0 %
comments: MISA audit sample.

03890297 sampled: 11/22/89 LC50: 8.8 %
95% fid. limits: 6.8 - 11.4 % slope: 5.5
comments:

03890385 sampled: 12/19/89 LC50: 12.0 %
95% fid. limits: 9.1 - 15.7 % slope: 5.5
comments:

03900042 sampled: 01/16/90 LC50: 14.1 %
95% fid. limits: 10.0 - 20.0 %
comments: Lethal

03900163 sampled: 02/27/90 LC50: 18.4 %
95% fid. limits: 13.7 - 24.6 % slope: 5.7
comments:

03900229 sampled: 03/20/90 LC50: 12.6 %
95% fid. limits: 9.4 - 16.9 % slope: 5.5
comments: Lethal

combined effluent

03890223 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890298 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Courtaulds Fibres Canada (continued)

03890386 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900043 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900164 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900230 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

combined effluent

03890224 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890299 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890387 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900044 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900165 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900231 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890225 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01890273 sampled: 11/21/89 LC50: 53.0 %
95% fid. limits: 36.8 - 79.4 %
comments: MISA audit sample.

Courtaulds Fibres Canada (continued)

03890300 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890388 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lehtal

03900045 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900166 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900232 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

combined effluent

03890226 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890301 sampled: 11/22/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890389 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900046 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900167 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--NOn-lethal

03900233 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

rain gauge

intake water

03890302 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890390 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

TOXICITY TEST REPORT Sample: 03890221

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	1	1	10
10	0	10	10	10	10	10	10	10	100
100	0	10	10	10	10	10	10	10	100

96 Hour LC50 : 6.3 %

95% fid. limits : 4.7 - 8.5 %

Comments :

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890221

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7							8.4
	O2 ppm	8.1							9.1
	Cond.	576							557
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
1	pH	7.5							8.3
	O2 ppm	8.7							9.1
	Cond.	639							637
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
2	pH	7.2							8.2
	O2 ppm	8.3							9.1
	Cond.	738							754
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
5	pH	6.8							7.8
	O2 ppm	8.3							8.0
	Cond.	936							957
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
10	pH	6.3	6.3						
	O2 ppm	8.4	8.4						
	Cond.	1330	1330						
	Temp(C)	14.0	14.0						
100	pH	2.0	2.0						
	O2 ppm	8.7	8.7						
	Cond.	1272	1272						
	Temp(C)	14.0	14.0						

MISA Trout

TOXICITY TEST REPORT Sample: 01890269

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:01	00:05	02:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
65	0	0	10	10	10	10	10	10	100
40	0	0	10	10	10	10	10	10	100
30	0	0	10	10	10	10	10	10	100
20	0	0	10	10	10	10	10	10	100
10	0	0	10	10	10	10	10	10	100
1	0	0	0	0	0	1	1	1	10
1	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	1	1	1	10

96 Hour LC50 : 2.7 %

95% fid. limits : 2.1 - 3.6 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By : sk

TOXICITY TEST PARAMETERS

Sample Number: 01890269

TEST CONC. %		ELAPSED TIME 00:00	00:01	00:05	02:00	24:00	48:00	72:00	96:00
100	pH	1.7		1.9					
	O2 ppm	11.9		9.7					
	Cond.	1800		1790					
	Temp(C)	13.0		14.0					
65	pH			1.9					
	O2 ppm			9.7					
	Cond.			1710					
	Temp(C)			14.0					
40	pH			2.1					
	O2 ppm			9.8					
	Cond.			1540					
	Temp(C)			14.0					
30	pH			2.1					
	O2 ppm			9.9					
	Cond.			1100					
	Temp(C)			14.0					
20	pH			2.3					
	O2 ppm			9.9					
	Cond.			690					
	Temp(C)			14.0					
10	pH			2.8					
	O2 ppm			9.9					
	Cond.			575					
	Temp(C)			14.0					
1	pH			7.2		7.6	7.5	7.7	7.9
	O2 ppm			10.0		10.6	10.7	9.8	9.3
	Cond.			295		295	310	300	300
	Temp(C)			14.0		14.0	14.0	14.0	14.0
0	pH			7.3		7.7	7.6	7.8	8.1
	O2 ppm			10.0		10.8	10.9	10.2	9.5
	Cond.			255		265	280	265	290
	Temp(C)			14.0		14.0	14.0	14.0	14.0
Control	pH			7.5		7.7	7.6	7.9	8.0
	O2 ppm			10.1		10.7	10.8	10.3	9.7
	Cond.			240		245	250	255	265
	Temp(C)			14.0		14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890296

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
5	0	0	0	0	2	7	8	8	80
10	0	0	0	10	10	10	10	10	100
20	0	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
100	0	10	10	10	10	10	10	10	100

96 Hour LC50 : 3.0 %

95% fid. limits : 1.9 - 4.6 %

Comments :

SLOPE of Mortality Curve : 3.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890296

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8							8.5
	O2 ppm	9.2							9.3
	Cond.	560							561
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5	15.0	15.0
1	pH	7.3							8.5
	O2 ppm	9.0							9.4
	Cond.	642							654
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5	15.0	15.0
5	pH	6.8					8.3		
	O2 ppm	10.0					9.7		
	Cond.	934					1024		
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	6.3			6.3				
	O2 ppm	10.6			10.6				
	Cond.	1396			1396				
	Temp(C)	14.5	14.5	14.5	14.5				
20	pH	3.1	3.1						
	O2 ppm	11.0	11.0						
	Cond.	2740	2740						
	Temp(C)	14.5	14.5						
40	pH	2.8	2.8						
	O2 ppm	10.4	10.4						
	Cond.	3500	3500						
	Temp(C)	14.5	14.5						
65	pH	2.3	2.3						
	O2 ppm	10.1	10.1						
	Cond.	7070	7070						
	Temp(C)	14.5	14.5						
100	pH	2.0	2.0						
	O2 ppm	10.1	10.1						
	Cond.	4290	4290						
	Temp(C)	14.5	14.5						

MISA Trout

TOXICITY TEST REPORT Sample: 03890384

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	100
20	0	10	10	10	10	100
10	0	6	10	10	10	100
5	0	0	5	6	6	60
3	0	0	0	1	1	10
1	0	0	0	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : 3.9 %

95% fid. limits : 2.6 - 5.6 %

Comments :

SLOPE of Mortality Curve : 3.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890384

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	2.2	3.2			
	O2 ppm	10.4	9.9			
	Cond.	9050	9070			
	Temp(C)	15.0	14.0			
20	pH	6.0	7.1			
	O2 ppm	10.2	9.9			
	Cond.	1690	1730			
	Temp(C)	15.0	14.0			
10	pH	6.8	7.3			
	O2 ppm	9.5	8.9			
	Cond.	1133	1120			
	Temp(C)	15.0	14.0	14.0		
5	pH	7.2		8.3		
	O2 ppm	9.2		9.0		
	Cond.	830		826		
	Temp(C)	15.0	14.0	14.0	14.0	14.5
2	pH	7.3				8.4
	O2 ppm	9.2				9.1
	Cond.	666				699
	Temp(C)	15.0	14.0	14.0	14.0	14.5
1	pH	7.6				8.4
	O2 ppm	8.9				8.7
	Cond.	609				611
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.9				9.0
	Cond.	554				533
	Temp(C)	15.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900041

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	100
20	0	0	10	10	10	10	10	10	100
10	0	0	0	2	2	2	2	2	20
5	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 12.0 %

95% fid. limits : 9.1 - 15.7 %

Comments :

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900041

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	pH	2.1	2.1						
	O2 ppm	10.3	10.3						
	Cond.	8180	8180						
	Temp(C)	15.0	15.0						
40	pH	3.0	3.0						
	O2 ppm	9.7	9.7						
	Cond.	3040	3040						
	Temp(C)	15.0	15.0						
20	pH	6.3		6.3					
	O2 ppm	9.2		9.2					
	Cond.	1544		1544					
	Temp(C)	15.0	15.0	15.0					
10	pH	7.0							8.3
	O2 ppm	8.8							10.1
	Cond.	1031							995
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
5	pH	7.4							8.4
	O2 ppm	8.5							10.0
	Cond.	767							734
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
1	pH	7.8							8.4
	O2 ppm	8.5							9.7
	Cond.	597							568
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9							8.3
	O2 ppm	8.4							9.5
	Cond.	550							525
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900162

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	100
20	0	10	10	10	10	10	10	10	100
10	0	0	0	0	10	10	10	10	100
5	0	0	0	0	0	9	9	9	90
1	0	0	0	0	0	4	5	5	50
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 1.0 %

95% fid. limits : 0.1 - 1.9 %

Comments :

SLOPE of Mortality Curve : 2.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900162

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	pH	1.9	1.9						
	O2 ppm	8.1	8.1						
	Cond.	4050	4050						
	Temp(C)	15.0	15.0						
65	pH	2.1	2.1						
	O2 ppm	8.3	8.3						
	Cond.	9430	9430						
	Temp(C)	15.0	15.0						
40	pH	2.3	2.3						
	O2 ppm	8.4	8.4						
	Cond.	5980	5980						
	Temp(C)	15.0	15.0						
20	pH	3.7	3.7						
	O2 ppm	8.5	8.5						
	Cond.	5980	5980						
	Temp(C)	15.0	15.0						
10	pH	6.3				8.1			
	O2 ppm	8.5				11.5			
	Cond.	1442				1441			
	Temp(C)	15.0	15.0	14.5	14.5	14.0			
5	pH	6.9					8.1		
	O2 ppm	8.7					11.3		
	Cond.	984					978		
	Temp(C)	15.0	15.0	14.5	14.5	14.0	14.0	14.0	14.0
1	pH	7.6						8.2	
	O2 ppm	7.7						9.4	
	Cond.	619						636	
	Temp(C)	15.0	15.0	14.5	14.5	14.0	14.0	14.0	14.0
Control	pH	7.9							8.5
	O2 ppm	8.9							9.7
	Cond.	543							552
	Temp(C)	15.0	15.0	14.5	14.5	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900228

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1420

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	100
20	0	10	10	10	10	10	10	10	100
10	0	0	0	0	6	10	10	10	100
5	0	0	0	0	3	10	10	10	100
1	0	0	0	0	0	0	1	1	10
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 2.0 %

95% fid. limits : 1.2 - 3.1 %

Comments : Lethal

SLOPE of Mortality Curve : 4.2
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900228

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	pH	2.0	2.0						
	O2 ppm	9.7	9.7						
	Cond.	2900	2900						
	Temp(C)	15.0	15.0						
65	pH	2.3	2.3						
	O2 ppm	9.4	9.4						
	Cond.	7850	7850						
	Temp(C)	15.0	15.0						
40	pH	2.5	2.5						
	O2 ppm	9.4	9.4						
	Cond.	5000	5000						
	Temp(C)	15.0	15.0						
20	pH	3.3	3.3						
	O2 ppm	8.8	8.8						
	Cond.	2350	2350						
	Temp(C)	15.0	15.0						
10	pH	6.3				7.6			
	O2 ppm	8.5				9.1			
	Cond.	1243				1275			
	Temp(C)	15.0	15.0	15.0	15.0	14.0	14.5		
5	pH	6.9					8.1		
	O2 ppm	8.3					9.4		
	Cond.	899					904		
	Temp(C)	15.0	15.0	15.0	15.0	14.0	14.5		
1	pH	7.6							8.5
	O2 ppm	8.3							9.7
	Cond.	614							592
	Temp(C)	15.0	15.0	15.0	15.0	14.0	14.5	15.0	15.0
Control	pH	7.9							8.5
	O2 ppm	8.1							9.0
	Cond.	553							527
	Temp(C)	15.0	15.0	15.0	15.0	14.0	14.5	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890227

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : pr 200, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
20	0	0	0	0	1	1	1	1	10
40	0	3	3	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
100	0	10	10	10	10	10	10	10	100

96 Hour LC50 : 25.3 %

95% fid. limits : 18.8 - 33.9 %

Comments :

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890227

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7							8.4
	O2 ppm	8.0							9.4
	Cond.	571							550
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.0	15.0	15.5
5	pH	7.2							8.2
	O2 ppm	9.1							9.4
	Cond.	575							564
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.0	15.0	15.5
10	pH	7.0							8.2
	O2 ppm	8.9							9.4
	Cond.	597							569
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.0	15.0	15.5
20	pH	6.3							8.0
	O2 ppm	8.9							9.4
	Cond.	607							583
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.0	15.0	15.5
40	pH	3.4			3.4				
	O2 ppm	8.9			8.9				
	Cond.	846			846				
	Temp(C)	14.0	15.0	15.0	15.0				
65	pH	2.5	2.5						
	O2 ppm	9.1	9.1						
	Cond.	2140	2140						
	Temp(C)	14.0	15.0						
100	pH	2.2	2.2						
	O2 ppm	9.4	9.4						
	Cond.	3910	3910						
	Temp(C)	14.0	15.0						

TOXICITY TEST REPORT Sample: 03890222

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
65	0	0	0	0	10	10	10	10	100
100	0	10	10	10	10	10	10	10	100

96 Hour LC50 : 61.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03890222

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7							8.2
	O2 ppm	8.1							8.4
	Cond.	572							558
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
10	pH	8.5							8.3
	O2 ppm	8.0							8.8
	Cond.	715							711
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
20	pH	9.0							8.2
	O2 ppm	7.9							8.8
	Cond.	871							826
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
40	pH	9.3							7.9
	O2 ppm	7.4							7.2
	Cond.	1093							1086
	Temp(C)	14.0	14.0	14.0	14.0	15.0	15.0	15.0	15.5
65	pH	10.1				10.0			
	O2 ppm	7.2				8.7			
	Cond.	1785				1784			
	Temp(C)	14.0	14.0	14.0	14.0	15.0			
100	pH	11.7	11.7						
	O2 ppm	7.0	7.0						
	Cond.	4530	4530						
	Temp(C)	14.0	14.0						

MISA Trout

TOXICITY TEST REPORT Sample: 01890270

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:05	01:00	02:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	100
30	0	10	10	10	10	10	10	10	100
20	0	0	0	0	10	10	10	10	100
10	0	0	0	0	10	10	10	10	100
5	0	0	0	0	2	4	5	6	60
1	0	0	0	0	0	0	0	1	10
Control	0	0	0	0	0	0	1	1	10

96 Hour LC50 : 3.3 %

95% fid. limits : 2.1 - 5.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By : sk

TOXICITY TEST PARAMETERS

Sample Number: 01890270

TEST CONC. %		ELAPSED TIME 00:00	00:05	01:00	02:00	24:00	48:00	72:00	96:00
100	pH	11.8	11.7						
	O2 ppm	5.0	7.4						
	Cond.	4300	4015						
	Temp(C)	13.0	14.0						
65	pH		11.3						
	O2 ppm		6.7						
	Cond.		2650						
	Temp(C)		14.0						
40	pH		11.0						
	O2 ppm		6.9						
	Cond.		1720						
	Temp(C)		14.0						
30	pH		10.7						
	O2 ppm		7.1						
	Cond.		1160						
	Temp(C)		14.0						
20	pH		8.8						
	O2 ppm		7.5						
	Cond.		840						
	Temp(C)		14.0						
10	pH		8.7						
	O2 ppm		8.0						
	Cond.		490						
	Temp(C)		14.0						
5	pH		8.4			8.2	7.7	7.9	8.0
	O2 ppm		9.3			10.7	10.1	9.7	9.4
	Cond.		345			360	385	370	380
	Temp(C)		14.0			14.0	14.0	14.0	14.0
1	pH		7.9			7.8	7.6	7.8	7.8
	O2 ppm		9.7			10.5	10.5	9.7	8.8
	Cond.		245			280	290	275	290
	Temp(C)		14.0			14.0	14.0	14.0	14.0
Control	pH		7.0			7.3	7.7	7.9	8.1
	O2 ppm		9.8			10.1	10.7	10.2	9.6
	Cond.		245			235	250	250	255
	Temp(C)		14.0			14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890297

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
10	0	0	0	5	5	7	7	70
20	0	0	10	10	10	10	10	100
40	0	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	100
100	0	10	10	10	10	10	10	100

96 Hour LC50 : 8.8 %

95% fid. limits : 6.8 - 11.4 %

Comments :

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890297

TEST CONC. %		ELAPSED TIME 00:00	01:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8						8.5
	O2 ppm	8.6						9.3
	Cond.	564						571
	Temp(C)	15.0	14.5	14.5	14.5	14.5	15.0	15.0
5	pH	8.6						8.5
	O2 ppm	8.6						9.2
	Cond.	604						607
	Temp(C)	15.0	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	9.7			8.8			
	O2 ppm	8.1			9.6			
	Cond.	756			627			
	Temp(C)	15.0	14.5	14.5	14.5	14.5	15.0	15.0
20	pH	10.3		10.3				
	O2 ppm	7.8		7.8				
	Cond.	1008		1008				
	Temp(C)	15.0	14.5	14.5				
40	pH	11.5	11.5					
	O2 ppm	7.7	7.7					
	Cond.	1960	1960					
	Temp(C)	15.0	14.5					
65	pH	12.0	12.0					
	O2 ppm	7.4	7.4					
	Cond.	3580	3580					
	Temp(C)	15.0	14.5					
100	pH	12.2	12.2					
	O2 ppm	7.0	7.0					
	Cond.	6180	6180					
	Temp(C)	15.0	14.5					

MISA Trout

TOXICITY TEST REPORT Sample: 03890385

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelleteir
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	100
20	0	0	0	10	10	10	10	100
10	0	0	0	0	0	1	2	20
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : 12.0 %

95% fid. limits : 9.1 - 15.7 %

Comments :

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890385

TEST CONC. %		ELAPSED TIME 00:00	01:00	04:00	24:00	48:00	72:00	96:00
100	pH	12.0	12.0					
	O2 ppm	7.0	7.0					
	Cond.	4860	4860					
	Temp(C)	15.0	15.0					
65	pH	11.7	11.7					
	O2 ppm	8.2	8.2					
	Cond.	2870	2870					
	Temp(C)	15.0	15.0					
40	pH	11.1	11.1					
	O2 ppm	7.9	7.9					
	Cond.	1633	1633					
	Temp(C)	15.0	15.0					
20	pH	9.8			9.8			
	O2 ppm	7.7			7.5			
	Cond.	917			922			
	Temp(C)	15.0	15.0	14.0	14.0			
10	pH	9.0						8.5
	O2 ppm	7.6						9.0
	Cond.	669						667
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.5
5	pH	8.5						8.4
	O2 ppm	7.8						9.2
	Cond.	618						591
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.5
Control	pH	7.9						8.5
	O2 ppm	8.8						9.0
	Cond.	552						533
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900042

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
40	0	0	10	10	10	10	10	10	100
20	0	0	0	0	10	10	10	10	100
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1	10
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 14.1 %

95% fid. limits : 10.0 - 20.0 %

Comments : Lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03900042

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	pH	11.9	11.9						
	O2 ppm	7.0	7.0						
	Cond.	3890	3890						
	Temp(C)	15.0	15.0						
40	pH	10.5		10.5					
	O2 ppm	7.2		7.2					
	Cond.	1451		1451					
	Temp(C)	15.0	15.0	15.0					
20	pH	9.5				9.0			
	O2 ppm	7.5				8.7			
	Cond.	887				889			
	Temp(C)	15.0	15.0	15.0	15.0	15.0			
10	pH	8.7							8.3
	O2 ppm	8.0							9.7
	Cond.	694							666
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
5	pH	8.6							8.3
	O2 ppm	8.4							9.8
	Cond.	640							608
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
1	pH	8.1							8.5
	O2 ppm	8.6							10.2
	Cond.	574							537
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9							8.4
	O2 ppm	8.4							10.0
	Cond.	559							523
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900163

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	100
40	0	0	0	10	10	10	10	100
20	0	0	0	5	5	5	5	50
10	0	0	0	0	1	1	1	10
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : 18.4 %

95% fid. limits : 13.7 - 24.6 %

Comments :

SLOPE of Mortality Curve : 5.7
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900163

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	24:00	48:00	72:00	96:00
100	pH	11.9	11.9					
	O2 ppm	7.0	7.0					
	Cond.	5870	5870					
	Temp(C)	15.0	14.5					
65	pH	11.5	11.5					
	O2 ppm	7.2	7.2					
	Cond.	3720	3720					
	Temp(C)	15.0	14.5					
40	pH	10.5			10.4			
	O2 ppm	7.3			8.4			
	Cond.	2270			2270			
	Temp(C)	15.0	14.5	14.5	14.5			
20	pH	9.6			9.4			
	O2 ppm	7.5			8.5			
	Cond.	1307			1293			
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5
10	pH	9.0						8.8
	O2 ppm	8.0						9.2
	Cond.	894						903
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5
5	pH	8.8						8.7
	O2 ppm	8.2						9.1
	Cond.	734						742
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5
Control	pH	7.9						8.5
	O2 ppm	8.3						9.1
	Cond.	544						549
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900229

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1320

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
40	0	0	0	6	10	10	10	10	100
20	0	0	0	0	10	10	10	10	100
10	0	0	0	0	1	1	1	1	10
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 12.6 %

95% fid. limits : 9.4 - 16.9 %

Comments : Lethal

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900229

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	pH	11.8	11.8						
	O2 ppm	7.3	7.3						
	Cond.	5090	5090						
	Temp(C)	15.0	14.5						
65	pH	11.3	11.3						
	O2 ppm	7.4	7.4						
	Cond.	2650	2650						
	Temp(C)	15.0	14.5						
40	pH	10.6			10.6				
	O2 ppm	7.4			7.4				
	Cond.	1810			1810				
	Temp(C)	15.0	14.5	14.5	14.5	14.5			
20	pH	9.7				9.5			
	O2 ppm	7.3				9.5			
	Cond.	1076				1052			
	Temp(C)	15.0	14.5	14.5	14.5	14.5			
10	pH	9.2							8.4
	O2 ppm	7.2							9.5
	Cond.	822							737
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	15.0
5	pH	8.9							8.4
	O2 ppm	7.2							9.5
	Cond.	688							650
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	15.0
Control	pH	7.9							8.6
	O2 ppm	7.4							9.8
	Cond.	549							519
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890223

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890223

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	8.1					8.6
	Cond.	572					559
	Temp(C)	14.0	14.5	15.0	15.0	15.0	15.5
100	pH	7.8					8.0
	O2 ppm	8.7					9.0
	Cond.	456					463
	Temp(C)	14.0	14.5	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890298

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890298

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.6
	O2 ppm	9.1					9.5
	Cond.	560					553
	Temp(C)	14.5	14.5	14.5	14.5	15.0	14.5
10	pH	7.9					8.5
	O2 ppm	9.1					9.3
	Cond.	565					567
	Temp(C)	14.5	14.5	14.5	14.5	15.0	14.5
20	pH	7.9					8.5
	O2 ppm	9.2					9.2
	Cond.	562					564
	Temp(C)	14.5	14.5	14.5	14.5	15.0	14.5
40	pH	7.9					8.3
	O2 ppm	9.1					9.0
	Cond.	560					570
	Temp(C)	14.5	14.5	14.5	14.5	15.0	14.5
65	pH	7.8					8.3
	O2 ppm	9.1					9.3
	Cond.	552					568
	Temp(C)	14.5	14.5	14.5	14.5	15.0	14.5
100	pH	7.7					8.0
	O2 ppm	8.9					9.0
	Cond.	545					564
	Temp(C)	14.5	14.5	14.5	14.5	15.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890386

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890386

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				8.1
	O2 ppm	9.5				9.1
	Cond.	453				456
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.9				8.2
	O2 ppm	9.2				9.1
	Cond.	488				492
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.8				8.4
	O2 ppm	9.0				8.7
	Cond.	512				504
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.8				8.5
	O2 ppm	9.3				8.7
	Cond.	531				522
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.4
	O2 ppm	8.9				8.9
	Cond.	541				536
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.4
	O2 ppm	8.8				9.2
	Cond.	545				541
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.7				8.5
	Cond.	554				555
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900043

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900043

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.5				8.0
	O2 ppm	8.1				9.9
	Cond.	443				434
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.3				9.9
	Cond.	550				523
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900164

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900164

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				8.1
	O2 ppm	8.2				9.8
	Cond.	413				421
	Temp(C)	14.5	14.5	14.0	14.0	14.5
100	pH	7.6				8.1
	O2 ppm	8.2				9.9
	Cond.	413				423
	Temp(C)	14.5	14.5	14.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.1				9.8
	Cond.	544				532
	Temp(C)	14.5	14.5	14.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.1				9.6
	Cond.	544				539
	Temp(C)	14.5	14.5	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900230

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1615

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	1	1	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900230

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				7.9
	O2 ppm	8.9				8.9
	Cond.	456				461
	Temp(C)	15.0	14.0	14.5	14.5	15.0
100	pH	7.8				7.9
	O2 ppm	8.9				8.9
	Cond.	456				461
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.5
	O2 ppm	8.3				9.4
	Cond.	549				523
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.5
	O2 ppm	8.3				9.4
	Cond.	549				523
	Temp(C)	15.0	14.0	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890224

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	1	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890224

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.4
	O2 ppm	8.1					9.3
	Cond.	572					541
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
10	pH	7.8					8.3
	O2 ppm	8.3					9.4
	Cond.	623					609
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
20	pH	7.7					8.3
	O2 ppm	8.3					9.4
	Cond.	676					668
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
40	pH	7.6					8.2
	O2 ppm	8.7					9.5
	Cond.	795					793
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
65	pH	7.5					8.0
	O2 ppm	8.9					9.0
	Cond.	959					956
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
100	pH	7.1					7.9
	O2 ppm	9.3					9.4
	Cond.	1198					1190
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890299

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890299

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.2
	O2 ppm	7.9					8.7
	Cond.	562					578
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	7.7					8.4
	O2 ppm	7.9					9.0
	Cond.	698					708
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
20	pH	7.7					8.3
	O2 ppm	8.0					8.9
	Cond.	861					853
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
40	pH	7.7					8.4
	O2 ppm	8.1					9.1
	Cond.	1112					1132
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
65	pH	7.6					8.2
	O2 ppm	7.9					9.1
	Cond.	1451					1473
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
100	pH	7.3					8.0
	O2 ppm	7.9					9.1
	Cond.	1911					1950
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890387

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890387

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.5				8.2
	O2 ppm	9.5				9.4
	Cond.	433				432
	Temp(C)	15.0	14.0	14.0	14.0	14.5
65	pH	7.7				8.3
	O2 ppm	9.2				9.3
	Cond.	473				468
	Temp(C)	15.0	14.0	14.0	14.0	14.5
40	pH	7.8				8.5
	O2 ppm	9.0				9.2
	Cond.	508				497
	Temp(C)	15.0	14.0	14.0	14.0	14.5
20	pH	7.8				8.6
	O2 ppm	8.9				9.0
	Cond.	534				520
	Temp(C)	15.0	14.0	14.0	14.0	14.5
10	pH	7.8				8.5
	O2 ppm	8.8				8.9
	Cond.	545				522
	Temp(C)	15.0	14.0	14.0	14.0	14.5
5	pH	7.8				8.5
	O2 ppm	8.7				9.3
	Cond.	551				530
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.8				8.5
	O2 ppm	8.8				9.0
	Cond.	554				533
	Temp(C)	15.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900044

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/19/90 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	2	8	16	16	80
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900044

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.1			8.0	
	O2 ppm	8.7			9.2	
	Cond.	632			634	
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.3				9.1
	Cond.	560				543
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900165

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900165

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.3				8.0
	O2 ppm	8.9				9.8
	Cond.	1895				1944
	Temp(C)	14.5	14.5	14.0	14.0	14.0
65	pH	7.6				8.3
	O2 ppm	8.9				9.9
	Cond.	1431				1474
	Temp(C)	14.5	14.5	14.0	14.0	14.0
40	pH	7.7				8.3
	O2 ppm	8.7				9.8
	Cond.	1098				1121
	Temp(C)	14.5	14.5	14.0	14.0	14.0
20	pH	7.8				8.4
	O2 ppm	8.5				9.7
	Cond.	812				828
	Temp(C)	14.5	14.5	14.0	14.0	14.0
10	pH	8.0				8.5
	O2 ppm	8.4				9.8
	Cond.	680				688
	Temp(C)	14.5	14.5	14.0	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	8.3				9.7
	Cond.	613				620
	Temp(C)	14.5	14.5	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.2				9.6
	Cond.	544				556
	Temp(C)	14.5	14.5	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900231

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1620

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900231

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.1				8.1
	O2 ppm	9.3				9.6
	Cond.	572				562
	Temp(C)	15.0	14.0	14.5	14.5	15.0
65	pH	7.5				8.2
	O2 ppm	9.2				9.4
	Cond.	561				558
	Temp(C)	15.0	14.0	14.5	14.5	15.0
40	pH	7.7				8.4
	O2 ppm	9.4				9.5
	Cond.	556				547
	Temp(C)	15.0	14.0	14.5	14.5	15.0
20	pH	7.8				8.4
	O2 ppm	9.3				9.4
	Cond.	549				541
	Temp(C)	15.0	14.0	14.5	14.5	15.0
10	pH	7.9				8.4
	O2 ppm	8.9				9.4
	Cond.	546				530
	Temp(C)	15.0	14.0	14.5	14.5	15.0
5	pH	7.9				8.3
	O2 ppm	8.7				8.8
	Cond.	543				543
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.5
	O2 ppm	8.6				9.4
	Cond.	543				528
	Temp(C)	15.0	14.0	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890225

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890225

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.3
	O2 ppm	7.9					9.4
	Cond.	571					561
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
5	pH						8.3
	O2 ppm						9.2
	Cond.						561
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
10	pH	7.6					8.4
	O2 ppm	7.7					9.5
	Cond.	567					553
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
25	pH	7.7					8.3
	O2 ppm	7.5					9.5
	Cond.	553					553
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
50	pH	7.5					8.2
	O2 ppm	8.1					9.5
	Cond.	542					547
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
100	pH	7.1					7.7
	O2 ppm	8.3					9.3
	Cond.	538					541
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 01890273

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/24/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	1	6	7	8	80
65	0	0	0	0	0	1	7	8	8	80
40	0	0	0	0	0	0	1	2	2	20
30	0	0	0	0	0	0	0	1	2	20
20	0	0	0	0	0	0	0	3	4	40
10	0	0	0	0	0	0	0	2	3	30
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 53.0 %

95% fid. limits : 36.8 - 79.4 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By : moving average

TOXICITY TEST PARAMETERS

Sample Number: 01890273

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	48:00	72:00	96:0
100	pH	5.4		7.1	7.4	7.4	7.2	7.		
	O2 ppm	10.5		9.6	10.7	11.0	9.9	9.		
	Cond.	480		500	485	500	520	52		
	Temp(C)	11.7		14.0	14.0	14.0	14.0	14.		
65	pH			7.3	7.6	7.5	7.4	7.		
	O2 ppm			9.8	10.7	11.0	9.9	9.		
	Cond.			400	400	395	420	42		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
40	pH			7.3	7.6	7.5	7.5	8.		
	O2 ppm			9.6	10.9	11.1	10.1	9.		
	Cond.			360	350	345	360	36		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
30	pH			7.3	7.6	7.6	7.6	8.		
	O2 ppm			9.4	10.7	11.0	9.4	9.		
	Cond.			330	320	300	320	30		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
20	pH			7.2	7.7	7.6	7.6	8.		
	O2 ppm			9.5	10.8	11.1	10.0	9.		
	Cond.			290	290	295	310	28		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
10	pH			7.0	7.8	7.6	7.7	7.		
	O2 ppm			9.3	10.9	11.0	9.9	8.		
	Cond.			270	265	270	275	25		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
Control	pH			7.0	7.7	7.6	7.8	7.		
	O2 ppm			9.4	10.6	10.8	9.8	8.		
	Cond.			260	245	245	255	25		
	Temp(C)			14.0	14.0	14.0	14.0	14.		

MISA Trout

TOXICITY TEST REPORT Sample: 03890300

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0					0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890300

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	9.2					9.4
	Cond.	564					566
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	7.7					8.4
	O2 ppm	9.1					9.3
	Cond.	568					575
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
20	pH	7.6					8.4
	O2 ppm	9.2					9.3
	Cond.	574					581
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
40	pH	7.5					8.4
	O2 ppm	9.4					9.4
	Cond.	594					600
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
65	pH	7.2					8.3
	O2 ppm	9.6					9.4
	Cond.	604					620
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
100	error						

MISA Trout

TOXICITY TEST REPORT Sample: 03890388

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lehtal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890388

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				8.1
	O2 ppm	9.5				9.0
	Cond.	424				432
	Temp(C)	15.0	14.0	14.0	14.0	14.5
65	pH	7.7				8.2
	O2 ppm	9.3				8.7
	Cond.	470				473
	Temp(C)	15.0	14.0	14.0	14.0	14.5
40	pH	7.8				8.1
	O2 ppm	9.1				8.6
	Cond.	502				506
	Temp(C)	15.0	14.0	14.0	14.0	14.5
20	pH	7.9				8.5
	O2 ppm	8.9				8.7
	Cond.	528				524
	Temp(C)	15.0	14.0	14.0	14.0	14.5
10	pH	7.9				8.5
	O2 ppm	8.8				9.1
	Cond.	540				529
	Temp(C)	15.0	14.0	14.0	14.0	14.5
5	pH	7.9				8.5
	O2 ppm	8.8				8.8
	Cond.	550				525
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.9				9.0
	Cond.	552				533
	Temp(C)	15.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900045

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/19/90 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900045

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.5				8.1
	O2 ppm	8.9				9.3
	Cond.	400				412
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.3				9.2
	Cond.	550				533
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900166

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900166

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	6.6				7.8
	O2 ppm	9.0				9.9
	Cond.	644				654
	Temp(C)	14.5	14.5	14.5	14.0	14.5
100	pH	6.6				7.8
	O2 ppm	9.0				9.9
	Cond.	644				654
	Temp(C)	14.5	14.5	14.5	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.2				9.8
	Cond.	544				524
	Temp(C)	14.5	14.5	14.5	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.2				9.8
	Cond.	544				517
	Temp(C)	14.5	14.5	14.5	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900232

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1625

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900232

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.3				8.0
	O2 ppm	9.7				9.2
	Cond.	451				452
	Temp(C)	15.0	14.0	14.5	14.5	15.0
100	pH	7.3				8.0
	O2 ppm	9.7				9.2
	Cond.	451				452
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.4
	O2 ppm	8.7				9.2
	Cond.	550				530
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.4
	O2 ppm	8.7				9.2
	Cond.	550				530
	Temp(C)	15.0	14.0	14.5	14.5	15.0

TOXICITY TEST REPORT Sample: 03890226

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890226

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	8.2					9.4
	Cond.	572					545
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
10	pH	7.7					8.3
	O2 ppm	8.3					9.4
	Cond.	560					549
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
20	pH	7.7					8.3
	O2 ppm	8.3					9.5
	Cond.	562					547
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
40	pH	7.6					8.0
	O2 ppm	8.6					8.9
	Cond.	555					546
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
65	pH	7.4					8.2
	O2 ppm	8.8					9.0
	Cond.	546					542
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
100	pH	7.1					7.7
	O2 ppm	9.5					9.1
	Cond.	541					536
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890301

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	10	10	10	100

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890301

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.4
	O2 ppm	8.1					9.3
	Cond.	560					542
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	7.7					8.5
	O2 ppm	8.1					9.2
	Cond.	563					572
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
20	pH	7.6					8.5
	O2 ppm	8.2					9.3
	Cond.	571					579
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
40	pH	7.5					8.4
	O2 ppm	8.3					9.3
	Cond.	588					602
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
65	pH	7.3					8.2
	O2 ppm	8.6					9.2
	Cond.	617					628
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
100	pH	6.8					7.8
	O2 ppm	8.8					9.3
	Cond.	660					671
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890389

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890389

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				8.2
	O2 ppm	9.5				9.1
	Cond.	431				431
	Temp(C)	15.0	14.0	14.0	14.0	14.5
65	pH	7.7				8.4
	O2 ppm	9.3				9.3
	Cond.	473				468
	Temp(C)	15.0	14.0	14.0	14.0	14.5
40	pH	7.7				8.5
	O2 ppm	9.0				9.0
	Cond.	564				492
	Temp(C)	15.0	14.0	14.0	14.0	14.5
20	pH	7.9				8.5
	O2 ppm	8.9				9.2
	Cond.	530				516
	Temp(C)	15.0	14.0	14.0	14.0	14.5
10	pH	7.9				8.5
	O2 ppm	8.8				8.9
	Cond.	543				513
	Temp(C)	15.0	14.0	14.0	14.0	14.5
5	pH	7.9				8.5
	O2 ppm	8.7				8.8
	Cond.	551				520
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.8				8.5
	Cond.	554				525
	Temp(C)	15.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900046

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900046

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	6.8				7.8
	O2 ppm	9.3				9.8
	Cond.	537				521
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.3				9.9
	Cond.	550				522
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900167

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--NOn-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900167

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	6.6				7.7
	O2 ppm	9.3				9.8
	Cond.	614				618
	Temp(C)	14.5	14.5	14.0	14.0	14.0
100	pH	6.6				7.8
	O2 ppm	9.3				9.9
	Cond.	614				625
	Temp(C)	14.5	14.5	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.3				9.9
	Cond.	544				541
	Temp(C)	14.5	14.5	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.3				9.8
	Cond.	544				536
	Temp(C)	14.5	14.5	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900233

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900233

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.3				8.1
	O2 ppm	9.4				9.3
	Cond.	431				439
	Temp(C)	15.0	14.0	14.5	14.5	15.0
100	pH	7.3				8.1
	O2 ppm	9.4				9.3
	Cond.	431				439
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.4
	O2 ppm	8.6				9.3
	Cond.	548				532
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.4
	O2 ppm	8.6				9.3
	Cond.	548				532
	Temp(C)	15.0	14.0	14.5	14.5	15.0

TOXICITY TEST REPORT Sample: 03890302

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890302

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.1
	O2 ppm	7.8					8.4
	Cond.	563					576
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	7.8					8.4
	O2 ppm	7.8					9.2
	Cond.	547					555
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
20	pH	7.8					8.3
	O2 ppm	7.8					8.9
	Cond.	527					536
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
40	pH	7.8					8.4
	O2 ppm	8.1					9.1
	Cond.	481					494
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
65	pH	7.9					8.1
	O2 ppm	8.2					9.0
	Cond.	439					450
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
100	pH	9.1					8.1
	O2 ppm	8.4					9.0
	Cond.	375					387
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890390

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelleteir
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890390

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	9.7				9.5
	Cond.	355				472
	Temp(C)	15.0	14.0	14.0	14.0	14.5
65	pH	8.0				8.2
	O2 ppm	9.4				9.5
	Cond.	425				496
	Temp(C)	15.0	14.0	14.0	14.0	14.5
40	pH	7.9				8.3
	O2 ppm	9.2				9.7
	Cond.	474				519
	Temp(C)	15.0	14.0	14.0	14.0	14.5
20	pH	7.9				8.3
	O2 ppm	9.0				9.4
	Cond.	515				536
	Temp(C)	15.0	14.0	14.0	14.0	14.5
10	pH	7.9				8.4
	O2 ppm	9.0				9.6
	Cond.	533				543
	Temp(C)	15.0	14.0	14.0	14.0	14.5
5	pH	7.8				8.5
	O2 ppm	8.8				9.3
	Cond.	540				551
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.8				9.4
	Cond.	550				563
	Temp(C)	15.0	14.0	14.0	14.0	14.5

COMPANY: Courtaulds Fibres Canada, Cornwall
(1900000)
(now with Cornwall Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results for thirty-eight Daphnia magna acute lethality toxicity tests conducted on effluent samples collected between October 1989 and March 1990 were submitted by Courtaulds Fibres Canada of Cornwall. The samples from the various outfall points of this plant were either very toxic, or had low levels of acute toxicity. One sample of intake water collected in December was nonlethal, and one sample of storm water collected in October had an LC50 of 8.8%.

Sixteen of seventeen samples from combined effluents #500, 600 and 800 were either not acutely lethal to Daphnia (29% of samples) or had less than 4 test animals die during any one test. One sample from combined effluent #600 collected in January was acutely lethal to Daphnia, with an LC50 = 60.9%.

The samples from combined effluent #700 were more variable than all the others from this plant. Three samples were nonlethal, one sample had an LC50 > 100%, and two samples had Lc50 values of 87.1 and 93.3%.

Samples from process effluents #100 and #300 are consistently acutely toxic. All twelve samples from these outfalls had LC50s < 8% effluent, and 11 of 12 samples had LC50s < 4%. Much of the toxicity from these outfalls can be attributed to the extremes in pH of the effluents. The acid sewer (#100) effluent consistently has pH values of 2, and the alkal sewer (#300) effluent consistently has pH > 11.5. At these pH levels Daphnia are killed within the first hour of exposure to 100% effluent concentrations.

Audit samples for combined effluents #100, 300, 500, 600, 700, and 800 were tested in the Ministry laboratory in November. The results were consisent with those submitted by the company.

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process effluent

03890221 sampled: 10/18/89 LC50: 1.9 %
95% fid. limits: 1.4 - 2.5 % slope: 5.1
comments:

02890269 sampled: 11/21/89 LC50: 0.0 - 5.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/ low pH, rapidly lethal

03890296 sampled: 11/22/89 LC50: 1.4 %
95% fid. limits: 1.0 - 1.8 % slope: 5.1
comments:

03890384 sampled: 12/19/89 LC50: 1.7 %
95% fid. limits: 1.3 - 2.3 % slope: 7.3
comments:

03900041 sampled: 01/16/90 LC50: 7.6 %
95% fid. limits: 5.8 - 9.8 % slope: 5.5
comments: Lethal

03900162 sampled: 02/27/90 LC50: 3.7 %
95% fid. limits: 2.8 - 4.7 % slope: 5.8
comments:

03900228 sampled: 03/20/90 LC50: 1.7 %
95% fid. limits: 1.1 - 2.1 % slope: 5.6
comments:

pr 200

03890227 sampled: 10/18/89 LC50: 8.8 %
95% fid. limits: 6.7 - 11.4 % slope: 6.1
comments:

process effluent

03890222 sampled: 10/18/89 LC50: 1.7 %
95% fid. limits: 1.3 - 2.2 % slope: 4.7
comments:

02890270 sampled: 11/21/89 LC50: 2.0 %
95% fid. limits: 0.5 - 7.8 %
comments: MISA Audit/high pH, low oxygen, rapidly leth.

03890297 sampled: 11/22/89 LC50: 3.0 %
95% fid. limits: 2.4 - 3.7 % slope: 5.8
comments:

03890385 sampled: 12/19/89 LC50: 1.1 %
95% fid. limits: 0.7 - 1.6 % slope: 4.1
comments:

03900042 sampled: 01/16/90 LC50: 0.9 %
95% fid. limits: 0.4 - 1.5 % slope: 3.2
comments: Lethal

03900163 sampled: 02/27/90 LC50: 2.1 %
95% fid. limits: 1.5 - 3.0 %
comments:

03900229 sampled: 03/20/90 LC50: 2.6 %
95% fid. limits: 2.0 - 3.4 % slope: 6.1
comments:

combined effluent

03890223 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02890272 sampled: 11/21/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890298 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890386 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900043 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900164 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900230 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent

03890224 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02890268 sampled: 11/21/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/several floaters in 100% & 60%

03890299 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890387 sampled: 12/19/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900044 sampled: 01/16/90 LC50: 60.9 %
95% fid. limits: 35.9 - 103.0 % slope: 2.0
comments: Lethal

03900165 sampled: 02/27/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

03900231 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent

03890225 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02890273 sampled: 11/21/89 LC50: 64.5 %
95% fid. limits: 51.9 - 80.1 %
comments: MISA Audit/

03890300 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900045 sampled: 01/16/90 LC50: 93.3 %
95% fid. limits: 66.2 - 131.3 % slope: 3.6
comments: lethal

03900166 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900232 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

combined effluent

03890226 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02890271 sampled: 11/21/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890301 sampled: 11/22/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

03890389 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900046 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900167 sampled: 02/27/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900233 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

rain gauge

intake water

03890302 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890390 sampled: 12/19/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

TOXICITY TEST REPORT Sample: 03890221

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
3	0	0	0	0	3	10	83
5	0	0	0	0	9	12	100
10	0	0	0	11	12	12	100
100	0	12	12	12	12	12	100

48 Hour LC50 : 1.9 %

95% fid. limits : 1.4 - 2.5 %

Comments :

SLOPE of Mortality Curve : 5.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890221

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.4					8.3
	O2 ppm	9.5					9.4
	Cond.	294					295
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
1	pH	7.5					7.9
	O2 ppm	8.2					8.6
	Cond.	390					380
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
2	pH	7.0					7.6
	O2 ppm	8.2					8.4
	Cond.	531					522
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
5	pH	6.5					7.2
	O2 ppm	8.3					8.3
	Cond.	724					712
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
10	pH	4.2					4.7
	O2 ppm	8.4					9.1
	Cond.	1216					1163
	Temp(C)	21.0	20.0	20.0	20.0		19.5
100	pH	2.0	2.0				
	O2 ppm	8.6	8.6				
	Cond.	1205	1205				
	Temp(C)	21.0	20.0	20.0			

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890269

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
60	0	12	12	12	100
30	0	12	12	12	100
15	0	12	12	12	100
5	0	0	6	12	100
Control	0	0	0	0	0

48 Hour LC50 : 0.0 - 5.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/ low pH, rapidly lethal

SLOPE of Mortality Curve :
LC50 Calculated By : unable to calculate

TOXICITY TEST PARAMETERS

Sample Number: 02890269

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH				1.9
	O2 ppm	8.4			8.2
	Cond.	1078			1040
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	2.1			2.0
	O2 ppm	8.7			8.2
	Cond.	6890			6580
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	2.3			2.2
	O2 ppm	9.2			8.3
	Cond.	3810			3560
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	2.6			2.5
	O2 ppm	9.4			8.4
	Cond.	1960			1880
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	5.6			6.8
	O2 ppm	9.2			7.8
	Cond.	661			620
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			6.9
	O2 ppm	9.2			8.0
	Cond.	295			262
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890296

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1310

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL* MORTALITY %
Control	0	0	0	0	0	0	0
2	0	0	0	0	0	7	58
3	0	0	0	0	7	12	100
6	0	0	0	0	12	12	100
13	0	0	11	12	12	12	100
25	0	12	12	12	12	12	100
100	0	12	12	12	12	12	100

48 Hour LC50 : 1.4 %

95% fid. limits : 1.0 - 1.8 %

Comments :

SLOPE of Mortality Curve : 5.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890296

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.5					8.3
	O2 ppm	9.0					9.9
	Cond.	301					303
	Temp(C)	20.0	20.0	20.0	20.0	20.0	20.0
1	pH	7.1					7.9
	O2 ppm	9.0					9.2
	Cond.	451					453
	Temp(C)	20.0	20.0	20.0	20.0	20.0	20.0
3	pH	6.9					7.7
	O2 ppm	9.2					9.2
	Cond.	600					604
	Temp(C)	20.0	20.0	20.0	20.0	20.0	20.0
6	pH	6.3				7.1	
	O2 ppm	8.7				9.5	
	Cond.	931				892	
	Temp(C)	20.0	20.0	20.0	20.0	20.0	
13	pH	3.1			3.1		
	O2 ppm	9.1			9.1		
	Cond.	1933			1933		
	Temp(C)	20.0	20.0	20.0	20.0		
25	pH	2.6	2.6				
	O2 ppm	9.0	9.0				
	Cond.	3900	3900				
	Temp(C)	20.0	20.0				
100	pH	2.0	2.0				
	O2 ppm	8.6	8.6				
	Cond.	3560	3560				
	Temp(C)	20.0	20.0				

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890384

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	12	12	12	100
25	0	12	12	12	100
13	0	0	7	12	100
6	0	0	0	12	100
3	0	0	0	12	100
1	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 1.7 %

95% fid. limits : 1.3 - 2.3 %

Comments :

SLOPE of Mortality Curve : 7.3
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890384

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	2.2	2.2		
	O2 ppm	9.3	9.3		
	Cond.	9270	9270		
	Temp(C)	20.0	19.5		
50	pH	2.5	2.5		
	O2 ppm	9.8	9.5		
	Cond.	4640	4640		
	Temp(C)	20.0	19.5		
25	pH	3.1	3.1		
	O2 ppm	9.8	9.8		
	Cond.	2170	2170		
	Temp(C)	20.0	19.5		
13	pH	5.9			6.9
	O2 ppm	9.4			9.0
	Cond.	1078			1106
	Temp(C)	20.0	19.5	20.0	20.0
6	pH	6.9			7.8
	O2 ppm	9.0			9.0
	Cond.	657			661
	Temp(C)	20.0	19.5	20.0	20.0
3	pH	7.4			7.9
	O2 ppm	8.8			9.2
	Cond.	485			487
	Temp(C)	20.0	19.5	20.0	20.0
1	pH	7.8			8.2
	O2 ppm	8.7			9.3
	Cond.	365			372
	Temp(C)	20.0	19.5	20.0	20.0
Control	pH	8.3			8.3
	O2 ppm	8.8			9.4
	Cond.	302			305
	Temp(C)	20.0	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900041

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	12	12	12	100
25	0	12	12	12	100
13	0	2	12	12	100
6	0	0	1	2	16
3	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 7.6 %

95% fid. limits : 5.8 - 9.8 %

Comments : Lethal

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900041

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	2.1	2.1		
	O2 ppm	9.4	9.4		
	Cond.	7700	7700		
	Temp(C)	19.0	19.0		
50	pH	2.5	2.5		
	O2 ppm	9.4	9.4		
	Cond.	4010	4010		
	Temp(C)	19.0	19.0		
25	pH	3.2	3.2		
	O2 ppm	9.2	9.2		
	Cond.	1887	1887		
	Temp(C)	19.0	19.0		
13	pH	6.1		6.6	
	O2 ppm	9.1		9.2	
	Cond.	1017		1024	
	Temp(C)	19.0	19.0	20.0	
6	pH	7.0			7.8
	O2 ppm	9.0			8.7
	Cond.	618			625
	Temp(C)	19.0	19.0	20.0	20.0
3	pH	7.4			8.0
	O2 ppm	9.0			8.8
	Cond.	467			471
	Temp(C)	19.0	19.0	20.0	20.0
Control	pH	8.5			8.4
	O2 ppm	9.0			9.2
	Cond.	301			308
	Temp(C)	19.0	19.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900162

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	12	12	12	100
25	0	12	12	12	100
13	0	12	12	12	100
6	0	0	12	12	100
3	0	0	2	2	16
2	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 3.7 %

95% fid. limits : 2.8 - 4.7 %

Comments :

SLOPE of Mortality Curve : 5.8
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900162

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	1.8	1.8		
	O2 ppm	8.4	8.4		
	Cond.	2870	2870		
	Temp(C)	20.0	20.0		
50	pH	2.1	2.1		
	O2 ppm	8.6	8.6		
	Cond.	7080	7080		
	Temp(C)	20.0	20.0		
25	pH	2.5	2.5		
	O2 ppm	8.9	8.9		
	Cond.	3590	3590		
	Temp(C)	20.0	20.0		
13	pH	3.1	3.1		
	O2 ppm	8.8	8.8		
	Cond.	1796	1796		
	Temp(C)	20.0	20.0		
6	pH	6.5		7.2	
	O2 ppm	8.5		8.5	
	Cond.	846		833	
	Temp(C)	20.0	20.0	20.5	
3	pH	7.2			7.9
	O2 ppm	8.2			9.4
	Cond.	583			583
	Temp(C)	20.0	20.0	20.5	20.5
1	pH	7.4			8.1
	O2 ppm	8.2			9.5
	Cond.	452			448
	Temp(C)	20.0	20.0	20.5	20.5
Control	pH	8.5			8.6
	O2 ppm	8.1			9.6
	Cond.	303			305
	Temp(C)	20.0	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900228

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
25	0	12	12	12	100
13	0	12	12	12	100
6	0	0	11	12	100
3	0	0	0	11	91
2	0	0	0	5	41
1	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 1.7 %

95% fid. limits : 1.1 - 2.1 %

Comments :

SLOPE of Mortality Curve : 5.6
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900228

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	2.0	2.0		
	O2 ppm	9.3	9.3		
	Cond.	1920	1920		
	Temp(C)	20.0	20.0		
25	pH	2.6	2.6		
	O2 ppm	9.3	9.3		
	Cond.	3370	3370		
	Temp(C)	20.0	20.0		
13	pH	3.2	3.2		
	O2 ppm	9.3	9.3		
	Cond.	1603	1603		
	Temp(C)	20.0	20.0		
6	pH	6.4			7.3
	O2 ppm	9.2			8.7
	Cond.	746			741
	Temp(C)	20.0	20.0	20.0	20.0
3	pH	6.9			7.6
	O2 ppm	8.9			8.7
	Cond.	517			519
	Temp(C)	20.0	20.0	20.0	20.0
1	pH	7.3			8.0
	O2 ppm	8.8			8.5
	Cond.	416			408
	Temp(C)	20.0	20.0	20.0	20.0
0	pH	8.0			8.3
	O2 ppm	8.8			8.6
	Cond.	320			324
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.3			8.3
	O2 ppm	8.4			8.8
	Cond.	295			297
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890227

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : pr 200, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/22/89 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
6	0	0	0	0	0	2	16
13	0	0	0	4	8	10	83
25	0	12	12	12	12	12	100
50	0	12	12	12	12	12	100
100	0	12	12	12	12	12	100

48 Hour LC50 : 8.8 %

95% fid. limits : 6.7 - 11.4 %

Comments :

SLOPE of Mortality Curve : 6.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890227

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.4					8.2
	O2 ppm	9.5					9.7
	Cond.	294					302
	Temp(C)	19.0	19.0	19.0	19.0	20.0	20.0
1	pH	7.9					8.2
	O2 ppm	8.0					8.8
	Cond.	304					303
	Temp(C)	19.0	19.0	19.0	19.0	20.0	20.0
3	pH	7.2					7.9
	O2 ppm	9.7					9.6
	Cond.	315					316
	Temp(C)	19.0	19.0	19.0	19.0	20.0	20.0
6	pH	6.9					7.5
	O2 ppm	9.2					8.9
	Cond.	327					326
	Temp(C)	19.0	19.0	19.0	19.0	20.0	20.0
13	pH	6.3					6.7
	O2 ppm	9.0					9.0
	Cond.	363					356
	Temp(C)	19.0	19.0	19.0	19.0	20.0	20.0
25	pH	3.6	3.6				
	O2 ppm	9.4	9.4				
	Cond.	527	527				
	Temp(C)	19.0	19.0				
50	pH	2.6	2.6				
	O2 ppm	9.2	9.2				
	Cond.	1623	1623				
	Temp(C)	19.0	19.0				
100	pH	2.2	2.2				
	O2 ppm	8.6	8.6				
	Cond.	3620	3620				
	Temp(C)	19.0	19.0				

TOXICITY TEST REPORT Sample: 03890222

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1340

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	3	3	25
3	0	0	0	0	11	12	100
6	0	0	0	9	12	12	100
13	0	0	0	5	12	12	100
25	0	0	0	12	12	12	100
50	0	0	0	12	12	12	100
100	0	12	12	12	12	12	100

48 Hour LC50 : 1.7 %

95% fid. limits : 1.3 - 2.2 %

Comments :

SLOPE of Mortality Curve : 4.7
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890222

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.4					8.3
	O2 ppm	9.5					9.5
	Cond.	294					298
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
0	pH	8.6					8.5
	O2 ppm	8.9					8.5
	Cond.	335					314
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
1	pH	8.6					8.4
	O2 ppm	8.2					8.0
	Cond.	383					376
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
3	pH	9.0					8.5
	O2 ppm	7.9					7.9
	Cond.	389					394
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
6	pH	9.2				9.0	
	O2 ppm	7.4				8.6	
	Cond.	487				501	
	Temp(C)	21.0	20.0	20.0	20.0	20.0	
13	pH	9.6				9.5	
	O2 ppm	7.1				7.8	
	Cond.	716				740	
	Temp(C)	21.0	20.0	20.0	20.0	20.0	
25	pH	10.2			10.2		
	O2 ppm	6.5			6.5		
	Cond.	1156			1156		
	Temp(C)	21.0	20.0	20.0	20.0		
50	pH	11.1			11.1		
	O2 ppm	6.3			6.3		
	Cond.	2200			2200		
	Temp(C)	21.0	20.0	20.0	20.0		
100	pH	11.7	11.7				
	O2 ppm	5.0	5.0				
	Cond.	4390	4390				
	Temp(C)	21.0	20.0				

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890270

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1422

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
60	0	12	12	12	100
30	0	0	12	12	100
15	0	0	12	12	100
5	0	0	7	8	66
Control	0	0	0	0	0

48 Hour LC50 : 2.0 %

95% fid. limits : 0.5 - 7.8 %

Comments : MISA Audit/high pH, low oxygen, rapidly leth.

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Karber alpha = 0

TOXICITY TEST PARAMETERS

Sample Number: 02890270

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	11.6			11.0
	O2 ppm	1.9			3.8
	Cond.	5060			4190
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	11.4			10.6
	O2 ppm	5.1			4.6
	Cond.	3140			2590
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	10.9			10.2
	O2 ppm	6.7			5.4
	Cond.	1640			1410
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	10.2			9.6
	O2 ppm	7.4			6.0
	Cond.	924			818
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	9.3			8.5
	O2 ppm	7.6			5.3
	Cond.	495			462
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			8.0
	O2 ppm	8.3			7.8
	Cond.	311			331
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890297

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	5	6	50
6	0	0	0	10	12	12	100
13	0	0	0	12	12	12	100
25	0	0	10	12	12	12	100
100	0	12	12	12	12	12	100

48 Hour LC50 : 3.0 %

95% fid. limits : 2.4 - 3.7 %

Comments :

SLOPE of Mortality Curve : 5.8
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890297

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.5					8.4
	O2 ppm	9.0					10.0
	Cond.	301					306
	Temp(C)	20.0	20.0	20.0	20.0	20.0	20.0
1	pH	8.9					8.6
	O2 ppm	9.2					9.0
	Cond.	341					352
	Temp(C)	20.0	20.0	20.0	20.0	20.0	20.0
3	pH	9.2					8.6
	O2 ppm	8.0					8.7
	Cond.	366					360
	Temp(C)	20.0	20.0	20.0	20.0	20.0	20.0
6	pH	9.4				9.2	
	O2 ppm	6.6				8.9	
	Cond.	387				380	
	Temp(C)	20.0	20.0	20.0	20.0	20.0	
13	pH	10.4			10.4		
	O2 ppm	5.8			5.8		
	Cond.	667			667		
	Temp(C)	20.0	20.0	20.0	20.0		
25	pH	11.1					
	O2 ppm	5.0					
	Cond.	1264					
	Temp(C)	20.0	20.0				
100	pH	12.1	12.1				
	O2 ppm	2.8	2.8				
	Cond.	5890	5890				
	Temp(C)	20.0	20.0				

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890385

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1300

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	12	12	12	100
25	0	0	12	12	100
13	0	0	12	12	100
6	0	0	12	12	100
3	0	0	12	12	100
1	0	0	0	5	41
Control	0	0	0	0	0

48 Hour LC50 : 1.1 %

95% fid. limits : 0.7 - 1.6 %

Comments :

SLOPE of Mortality Curve : 4.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890385

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	12.1	12.1		
	O2 ppm	6.7	6.7		
	Cond.	5100	5100		
	Temp(C)	19.5	19.5		
50	pH	11.7	11.7		
	O2 ppm	7.9	7.9		
	Cond.	2340	2340		
	Temp(C)	19.5	19.5		
25	pH	11.1		10.4	
	O2 ppm	8.3		8.3	
	Cond.	1115		959	
	Temp(C)	19.5	19.5	20.0	
13	pH	10.2		9.8	
	O2 ppm	8.3		8.0	
	Cond.	619		578	
	Temp(C)	19.5	19.5	20.0	
6	pH	9.6		9.1	
	O2 ppm	8.3		8.2	
	Cond.	424		399	
	Temp(C)	19.5	19.5	20.0	
3	pH	9.0		8.8	
	O2 ppm	8.3		8.6	
	Cond.	367		352	
	Temp(C)	19.5	19.5	20.0	
1	pH	8.9			8.5
	O2 ppm	9.0			8.0
	Cond.	320			333
	Temp(C)	19.5	19.5	20.0	20.0
Control	pH	8.3			8.4
	O2 ppm	8.8			9.8
	Cond.	302			304
	Temp(C)	19.5	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900042

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	12	12	12	100
25	0	1	12	12	100
13	0	0	12	12	100
6	0	0	12	12	100
3	0	0	12	12	100
1	0	0	4	7	58
Control	0	0	0	0	0

48 Hour LC50 : 0.9 %

95% fid. limits : 0.4 - 1.5 %

Comments : Lethal

SLOPE of Mortality Curve : 3.2
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900042

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	11.9	11.9		
	O2 ppm	7.7	7.7		
	Cond.	3880	3880		
	Temp(C)	19.0	19.0		
50	pH	11.4	11.4		
	O2 ppm	8.4	8.4		
	Cond.	1853	1853		
	Temp(C)	19.0	19.0		
25	pH	10.5		10.0	
	O2 ppm	8.4		7.5	
	Cond.	933		921	
	Temp(C)	19.0	19.0	20.0	
13	pH	9.7		9.4	
	O2 ppm	8.0		7.8	
	Cond.	568		576	
	Temp(C)	19.0	19.0	20.0	
6	pH	9.3		8.9	
	O2 ppm	8.1		8.3	
	Cond.	422		426	
	Temp(C)	19.0	19.0	20.0	
3	pH	9.1		8.8	
	O2 ppm	8.4		8.5	
	Cond.	368		377	
	Temp(C)	19.0	19.0	20.0	
1	pH	8.9			8.5
	O2 ppm	8.6			8.4
	Cond.	336			348
	Temp(C)	19.0	19.0	20.0	20.0
Control	pH	8.5			8.4
	O2 ppm	9.0			8.7
	Cond.	301			303
	Temp(C)	19.0	19.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900163

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	12	12	12	100
25	0	0	12	12	100
13	0	0	12	12	100
6	0	0	12	12	100
3	0	0	12	12	100
2	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 2.1 %

95% fid. limits : 1.5 - 3.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03900163

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	11.7	11.7		
	O2 ppm	4.9	4.9		
	Cond.	5750	5750		
	Temp(C)	20.0	20.0		
50	pH	11.3	11.3		
	O2 ppm	6.5	6.5		
	Cond.	2930	2930		
	Temp(C)	20.0	20.0		
25	pH	10.4		10.1	
	O2 ppm	7.1		6.5	
	Cond.	1508		1470	
	Temp(C)	20.0	20.0	20.5	
13	pH	9.8		9.5	
	O2 ppm	7.2		7.4	
	Cond.	895		864	
	Temp(C)	20.0	20.0	20.5	
6	pH	9.4		9.1	
	O2 ppm	7.4		8.0	
	Cond.	577		562	
	Temp(C)	20.0	20.0	20.5	
3	pH	9.0		8.8	
	O2 ppm	7.7		8.3	
	Cond.	439		433	
	Temp(C)	20.0	20.0	20.5	
1	pH	8.7			8.7
	O2 ppm	7.9			9.0
	Cond.	374			379
	Temp(C)	20.0	20.0	20.5	20.5
Control	pH	8.5			8.6
	O2 ppm	8.1			9.5
	Cond.	303			305
	Temp(C)	20.0	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900229

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1425

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	12	100
50	0	0	0	12	12	100
25	0	0	0	12	12	100
13	0	0	0	12	12	100
6	0	0	0	10	12	100
3	0	0	0	5	7	58
2	0	0	0	0	1	8
Control	0	0	0	0	0	0

48 Hour LC50 : 2.6 %

95% fid. limits : 2.0 - 3.4 %

Comments :

SLOPE of Mortality Curve : 6.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900229

TEST CONC. %		ELAPSED TIME 00:00	02:00	04:00	24:00	48:00
100	pH	11.7	11.7			
	O2 ppm	6.0	6.0			
	Cond.	4870	4870			
	Temp(C)	20.0	20.0			
50	pH	11.3			10.6	
	O2 ppm	7.4			6.3	
	Cond.	2420			2130	
	Temp(C)	20.0	20.0	20.0	20.0	
25	pH	10.5			10.0	
	O2 ppm	7.9			6.8	
	Cond.	1203			1125	
	Temp(C)	20.0	20.0	20.0	20.0	
13	pH	9.9			9.4	
	O2 ppm	8.0			7.2	
	Cond.	734			685	
	Temp(C)	20.0	20.0	20.0	20.0	
6	pH	9.4				8.6
	O2 ppm	8.3				8.5
	Cond.	496				470
	Temp(C)	20.0	20.0	20.0	20.0	20.0
3	pH	9.1				8.5
	O2 ppm	8.4				8.7
	Cond.	388				387
	Temp(C)	20.0	20.0	20.0	20.0	20.0
1	pH	8.7				8.4
	O2 ppm	8.6				8.7
	Cond.	341				348
	Temp(C)	20.0	20.0	20.0	20.0	20.0
Control	pH	8.3				8.3
	O2 ppm	8.4				8.8
	Cond.	295				297
	Temp(C)	20.0	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890223

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890223

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.4
	O2 ppm	9.5			9.4
	Cond.	294			297
	Temp(C)	21.0	20.0	20.0	19.5
6	pH	8.3			8.3
	O2 ppm	8.4			8.7
	Cond.	315			301
	Temp(C)	21.0	20.0	20.0	19.5
13	pH	8.3			8.3
	O2 ppm	8.2			8.9
	Cond.	329			320
	Temp(C)	21.0	20.0	20.0	19.5
25	pH	8.2			8.2
	O2 ppm	8.2			9.0
	Cond.	347			341
	Temp(C)	21.0	20.0	20.0	19.5
50	pH	8.2			8.2
	O2 ppm	8.3			8.8
	Cond.	387			380
	Temp(C)	21.0	20.0	20.0	19.5
100	pH	8.0			7.9
	O2 ppm	8.6			8.5
	Cond.	465			452
	Temp(C)	21.0	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890272

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1441

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	1	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890272

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.9			7.8
	O2 ppm	8.1			6.5
	Cond.	519			520
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	8.0			7.9
	O2 ppm	8.2			6.7
	Cond.	427			414
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			7.8
	O2 ppm	8.3			6.4
	Cond.	376			370
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.0			7.8
	O2 ppm	8.3			6.5
	Cond.	348			340
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.1			7.8
	O2 ppm	8.4			6.5
	Cond.	324			316
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.1			7.8
	O2 ppm	8.4			6.6
	Cond.	305			278
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890298

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1320

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890298

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.0			9.8
	Cond.	301			299
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.5			8.4
	O2 ppm	8.2			9.2
	Cond.	332			315
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.4
	O2 ppm	8.2			9.8
	Cond.	357			339
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.3			8.2
	O2 ppm	8.1			9.6
	Cond.	370			363
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.2			8.0
	O2 ppm	8.0			9.4
	Cond.	426			418
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	7.8			7.8
	O2 ppm	8.0			8.7
	Cond.	548			532
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890386

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1125

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890386

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		8.1
	O2 ppm	9.3		8.6
	Cond.	448		442
	Temp(C)	19.5	20.0	20.0
50	pH	8.1		8.2
	O2 ppm	9.0		8.7
	Cond.	374		374
	Temp(C)	19.5	20.0	20.0
25	pH	8.3		8.3
	O2 ppm	8.9		8.8
	Cond.	336		337
	Temp(C)	19.5	20.0	20.0
13	pH	8.3		8.3
	O2 ppm	8.8		8.9
	Cond.	317		322
	Temp(C)	19.5	20.0	20.0
6	pH	8.3		8.4
	O2 ppm	8.8		8.9
	Cond.	304		309
	Temp(C)	19.5	20.0	20.0
Control	pH	8.3		8.2
	O2 ppm	8.8		8.3
	Cond.	302		309
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900043

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1220

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	2	2	16
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900043

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.4		7.9
	O2 ppm	8.7		8.0
	Cond.	431		441
	Temp(C)	19.0	20.0	20.0
50	pH	7.9		8.2
	O2 ppm	8.7		8.2
	Cond.	367		373
	Temp(C)	19.0	20.0	20.0
25	pH	8.1		8.3
	O2 ppm	8.7		8.2
	Cond.	334		340
	Temp(C)	19.0	20.0	20.0
13	pH	8.2		8.3
	O2 ppm	8.7		8.2
	Cond.	318		322
	Temp(C)	19.0	20.0	20.0
6	pH	8.4		8.4
	O2 ppm	8.7		8.2
	Cond.	308		313
	Temp(C)	19.0	20.0	20.0
Control	pH	8.5		8.4
	O2 ppm	9.0		8.0
	Cond.	301		305
	Temp(C)	19.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900164

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 950

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900164

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		8.2
	O2 ppm	8.0		9.3
	Cond.	404		399
	Temp(C)	20.0	20.5	20.5
50	pH	8.3		8.4
	O2 ppm	7.8		9.4
	Cond.	352		348
	Temp(C)	20.0	20.5	20.5
25	pH	8.3		8.5
	O2 ppm	7.7		9.3
	Cond.	328		325
	Temp(C)	20.0	20.5	20.5
13	pH	8.5		8.5
	O2 ppm	7.6		9.3
	Cond.	316		314
	Temp(C)	20.0	20.5	20.5
6	pH	8.5		8.5
	O2 ppm	7.6		9.3
	Cond.	309		311
	Temp(C)	20.0	20.5	20.5
Control	pH	8.5		8.5
	O2 ppm	8.1		9.0
	Cond.	303		306
	Temp(C)	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900230

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900230

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		7.8
	O2 ppm	9.2		8.2
	Cond.	444		447
	Temp(C)	20.0	20.0	20.0
50	pH	8.0		8.0
	O2 ppm	8.9		8.6
	Cond.	370		372
	Temp(C)	20.0	20.0	20.0
25	pH	8.1		8.1
	O2 ppm	8.7		8.8
	Cond.	333		336
	Temp(C)	20.0	20.0	20.0
13	pH	8.2		8.2
	O2 ppm	8.7		8.8
	Cond.	317		317
	Temp(C)	20.0	20.0	20.0
6	pH	8.1		8.2
	O2 ppm	8.7		8.8
	Cond.	304		305
	Temp(C)	20.0	20.0	20.0
Control	pH	8.3		8.3
	O2 ppm	8.4		8.8
	Cond.	295		297
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890224

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	1	1	8
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890224

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.4
	O2 ppm	9.5			9.4
	Cond.	294			297
	Temp(C)	21.0	20.0	20.0	19.5
6	pH	7.7			8.3
	O2 ppm	8.0			8.6
	Cond.	342			349
	Temp(C)	21.0	20.0	20.0	19.5
13	pH	8.1			8.3
	O2 ppm	7.9			8.9
	Cond.	416			415
	Temp(C)	21.0	20.0	20.0	19.5
25	pH	7.9			8.2
	O2 ppm	8.0			9.0
	Cond.	522			526
	Temp(C)	21.0	20.0	20.0	19.5
50	pH	7.6			8.0
	O2 ppm	8.2			8.9
	Cond.	744			755
	Temp(C)	21.0	20.0	20.0	19.5
100	pH	7.0			7.4
	O2 ppm	8.6			8.5
	Cond.	1181			1177
	Temp(C)	21.0	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890268

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1115

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	1	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/several floaters in 100% & 60%

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890268

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	6.7			7.5
	O2 ppm	9.3			7.2
	Cond.	420			428
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.2			7.5
	O2 ppm	9.1			7.0
	Cond.	379			383
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.5			7.6
	O2 ppm	9.2			7.2
	Cond.	349			349
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.7			7.7
	O2 ppm	9.3			7.5
	Cond.	332			332
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.7
	O2 ppm	9.3			7.4
	Cond.	320			320
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.8			7.9
	O2 ppm	9.3			8.2
	Cond.	300			294
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890299

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890299

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.0			9.6
	Cond.	301			304
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.4
	O2 ppm	8.4			9.4
	Cond.	397			415
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.3			8.4
	O2 ppm	8.4			9.3
	Cond.	508			523
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.2			8.3
	O2 ppm	8.4			9.3
	Cond.	692			713
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	7.9			8.2
	O2 ppm	8.6			9.2
	Cond.	1071			1103
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	7.4			8.0
	O2 ppm	8.8			9.2
	Cond.	1813			1887
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890387

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	1	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890387

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.4		8.0
	O2 ppm	9.2		8.8
	Cond.	423		423
	Temp(C)	19.5	20.0	20.0
50	pH	7.9		8.2
	O2 ppm	8.9		8.9
	Cond.	366		365
	Temp(C)	19.5	20.0	20.0
25	pH	8.2		8.3
	O2 ppm	8.8		9.0
	Cond.	333		333
	Temp(C)	19.5	20.0	20.0
13	pH	8.3		8.3
	O2 ppm	8.8		8.9
	Cond.	317		319
	Temp(C)	19.5	20.0	20.0
6	pH	8.3		8.4
	O2 ppm	8.7		8.7
	Cond.	304		310
	Temp(C)	19.5	20.0	20.0
Control	pH	8.3		8.4
	O2 ppm	8.8		8.3
	Cond.	302		309
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900044

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	12	100
50	0	2	3	25
25	0	1	1	8
13	0	1	2	16
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 60.9 %

95% fid. limits : 35.9 - 103.0 %

Comments : Lethal

SLOPE of Mortality Curve : 2.0
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900044

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.2		7.9
	O2 ppm	9.0		8.3
	Cond.	610		615
	Temp(C)	19.0	20.0	20.0
50	pH	7.7		8.1
	O2 ppm	9.0		8.3
	Cond.	455		458
	Temp(C)	19.0	20.0	20.0
25	pH	8.0		8.3
	O2 ppm	8.9		8.4
	Cond.	376		381
	Temp(C)	19.0	20.0	20.0
13	pH	8.2		8.3
	O2 ppm	8.9		8.4
	Cond.	339		347
	Temp(C)	19.0	20.0	20.0
6	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	315		323
	Temp(C)	19.0	20.0	20.0
Control	pH	8.5		8.4
	O2 ppm	9.0		8.3
	Cond.	301		307
	Temp(C)	19.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900165

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	1	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900165

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.4		7.9
	O2 ppm	8.2		9.5
	Cond.	1866		1870
	Temp(C)	20.0	20.5	20.5
50	pH	7.9		8.3
	O2 ppm	7.8		9.6
	Cond.	940		942
	Temp(C)	20.0	20.5	20.5
25	pH	8.1		8.4
	O2 ppm	7.8		9.6
	Cond.	708		712
	Temp(C)	20.0	20.5	20.5
13	pH	8.3		8.5
	O2 ppm	7.8		9.6
	Cond.	512		514
	Temp(C)	20.0	20.5	20.5
6	pH	8.4		8.5
	O2 ppm	7.7		9.6
	Cond.	399		394
	Temp(C)	20.0	20.5	20.5
Control	pH	8.5		8.5
	O2 ppm	8.1		9.4
	Cond.	303		297
	Temp(C)	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900231

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	1	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900231

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.1		7.6
	O2 ppm	9.2		8.7
	Cond.	573		577
	Temp(C)	20.0	20.0	20.0
50	pH	7.6		7.9
	O2 ppm	8.6		8.8
	Cond.	435		438
	Temp(C)	20.0	20.0	20.0
25	pH	7.8		8.0
	O2 ppm	8.4		8.8
	Cond.	369		370
	Temp(C)	20.0	20.0	20.0
13	pH	8.0		8.1
	O2 ppm	8.4		8.9
	Cond.	335		337
	Temp(C)	20.0	20.0	20.0
6	pH	8.2		8.2
	O2 ppm	8.4		8.8
	Cond.	318		321
	Temp(C)	20.0	20.0	20.0
Control	pH	8.3		8.3
	O2 ppm	8.4		8.8
	Cond.	295		297
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890225

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890225

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	9.5			9.3
	Cond.	294			297
	Temp(C)	21.0	20.0	20.0	19.5
6	pH	7.5			8.3
	O2 ppm	8.2			8.6
	Cond.	313			314
	Temp(C)	21.0	20.0	20.0	19.5
13	pH	8.2			8.3
	O2 ppm	7.9			8.9
	Cond.	334			329
	Temp(C)	21.0	20.0	20.0	19.5
25	pH	8.0			8.1
	O2 ppm	8.0			9.0
	Cond.	361			356
	Temp(C)	21.0	20.0	20.0	19.5
50	pH	7.6			7.9
	O2 ppm	8.1			8.9
	Cond.	419			413
	Temp(C)	21.0	20.0	20.0	19.5
100	pH	7.9			7.4
	O2 ppm	8.4			8.6
	Cond.	530			527
	Temp(C)	21.0	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890273

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1511

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	10	83
60	0	0	0	2	16
30	0	0	1	0	0
15	0	0	2	2	16
5	0	0	1	3	25
Control	0	0	0	0	0

48 Hour LC50 : 64.5 %

95% fid. limits : 51.9 - 80.1 %

Comments : MISA Audit/

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Karber alpha =14

TOXICITY TEST PARAMETERS

Sample Number: 02890273

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	6.0			6.7
	O2 ppm	8.1			6.2
	Cond.	605			587
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	6.9			7.2
	O2 ppm	8.2			5.9
	Cond.	481			481
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.3			7.5
	O2 ppm	8.3			6.1
	Cond.	402			392
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.7			7.6
	O2 ppm	8.3			6.5
	Cond.	358			349
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.7
	O2 ppm	8.3			6.6
	Cond.	329			329
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.9
	O2 ppm	8.3			7.0
	Cond.	306			285
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890300

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/25/89 at: 945

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890300

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	7.9			8.3
	O2 ppm	9.0			8.9
	Cond.	301			302
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	7.9			8.3
	O2 ppm	8.9			9.2
	Cond.	324			329
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	7.9			8.3
	O2 ppm	9.0			9.2
	Cond.	347			350
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	7.7			8.2
	O2 ppm	8.9			9.2
	Cond.	386			387
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	7.4			8.0
	O2 ppm	9.0			9.1
	Cond.	469			468
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	6.6			7.5
	O2 ppm	9.4			9.0
	Cond.	642			637
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900045

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1305

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	7	7	58
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 93.3 %

95% fid. limits : 66.2 - 131.3 %

Comments : lethal

SLOPE of Mortality Curve : 3.6
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900045

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.4		7.8
	O2 ppm	9.0		8.1
	Cond.	389		399
	Temp(C)	19.0	20.5	20.0
50	pH	7.9		8.1
	O2 ppm	9.0		8.3
	Cond.	342		354
	Temp(C)	19.0	20.5	20.0
25	pH	8.2		8.3
	O2 ppm	9.0		8.4
	Cond.	319		328
	Temp(C)	19.0	20.5	20.0
13	pH	8.3		8.3
	O2 ppm	9.0		8.5
	Cond.	308		317
	Temp(C)	19.0	20.5	20.0
6	pH	8.4		8.4
	O2 ppm	9.0		8.5
	Cond.	302		311
	Temp(C)	19.0	20.5	20.0
Control	pH	8.5		8.3
	O2 ppm	9.0		8.3
	Cond.	301		303
	Temp(C)	19.0	20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900166

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1005

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	1	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900166

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	6.9		7.7
	O2 ppm	8.1		9.7
	Cond.	628		627
	Temp(C)	20.0	20.5	20.5
50	pH	7.5		8.2
	O2 ppm	8.0		9.8
	Cond.	463		465
	Temp(C)	20.0	20.5	20.5
25	pH	7.9		8.3
	O2 ppm	7.9		9.9
	Cond.	383		384
	Temp(C)	20.0	20.5	20.5
13	pH	8.2		8.4
	O2 ppm	7.8		10.0
	Cond.	345		349
	Temp(C)	20.0	20.5	20.5
6	pH	8.2		8.5
	O2 ppm	7.8		10.0
	Cond.	323		325
	Temp(C)	20.0	20.5	20.5
Control	pH	8.5		8.5
	O2 ppm	8.1		9.9
	Cond.	303		310
	Temp(C)	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900232

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	1	1	8
25	0	0	0	0
13	0	0	0	0
6	0	1	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900232

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.2		7.8
	O2 ppm	9.1		8.6
	Cond.	444		450
	Temp(C)	20.0	20.0	20.0
50	pH	7.7		8.0
	O2 ppm	8.9		8.8
	Cond.	371		371
	Temp(C)	20.0	20.0	20.0
25	pH	7.9		8.1
	O2 ppm	8.8		8.8
	Cond.	336		338
	Temp(C)	20.0	20.0	20.0
13	pH	8.0		8.1
	O2 ppm	8.7		8.8
	Cond.	317		320
	Temp(C)	20.0	20.0	20.0
6	pH	8.1		8.2
	O2 ppm	8.6		8.9
	Cond.	305		318
	Temp(C)	20.0	20.0	20.0
Control	pH	8.3		8.3
	O2 ppm	8.4		8.9
	Cond.	295		297
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890226

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	1	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890226

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.4
	O2 ppm	9.5			9.3
	Cond.	294			298
	Temp(C)	21.0	20.0	20.0	19.5
6	pH	8.2			8.3
	O2 ppm	8.2			8.8
	Cond.	300			307
	Temp(C)	21.0	20.0	20.0	19.5
13	pH	8.1			8.2
	O2 ppm	8.1			8.8
	Cond.	324			327
	Temp(C)	21.0	20.0	20.0	19.5
25	pH	7.9			8.2
	O2 ppm	8.2			8.9
	Cond.	352			355
	Temp(C)	21.0	20.0	20.0	19.5
50	pH	7.5			8.0
	O2 ppm	8.3			8.8
	Cond.	408			412
	Temp(C)	21.0	20.0	20.0	19.5
100	pH	7.1			7.6
	O2 ppm	8.7			8.5
	Cond.	519			524
	Temp(C)	21.0	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890271

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1432

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890271

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.0			7.5
	O2 ppm	8.0			6.5
	Cond.	431			428
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.4			7.6
	O2 ppm	8.1			6.6
	Cond.	381			381
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.7			7.8
	O2 ppm	8.2			7.0
	Cond.	350			347
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.8
	O2 ppm	8.2			6.9
	Cond.	332			330
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.8
	O2 ppm	8.2			6.9
	Cond.	320			315
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.1			8.0
	O2 ppm	8.3			7.6
	Cond.	303			297
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890301

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890301

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.0			9.5
	Cond.	301			304
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.4
	O2 ppm	8.3			9.4
	Cond.	323			331
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.2			8.3
	O2 ppm	8.4			9.3
	Cond.	352			352
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	7.8			8.1
	O2 ppm	8.4			9.3
	Cond.	387			392
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	7.4			7.9
	O2 ppm	8.5			9.2
	Cond.	466			475
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	6.6			7.3
	O2 ppm	9.0			9.1
	Cond.	643			648
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890389

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1235

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890389

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.4		8.0
	O2 ppm	9.1		8.8
	Cond.	419		426
	Temp(C)	19.5	20.0	20.0
50	pH	7.9		8.2
	O2 ppm	8.8		8.8
	Cond.	361		365
	Temp(C)	19.5	20.0	20.0
25	pH	8.2		8.3
	O2 ppm	8.7		8.9
	Cond.	331		334
	Temp(C)	19.5	20.0	20.0
13	pH	8.3		8.3
	O2 ppm	8.7		8.9
	Cond.	315		319
	Temp(C)	19.5	20.0	20.0
6	pH	8.3		8.3
	O2 ppm	8.7		8.9
	Cond.	303		304
	Temp(C)	19.5	20.0	20.0
Control	pH	8.3		8.2
	O2 ppm	8.8		8.6
	Cond.	302		264
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900046

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1315

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	1	8
25	0	0	1	8
13	0	0	0	0
6	0	0	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900046

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	6.9		7.7
	O2 ppm	9.0		8.3
	Cond.	517		528
	Temp(C)	19.0	20.5	20.0
50	pH	7.4		8.1
	O2 ppm	9.0		8.4
	Cond.	408		415
	Temp(C)	19.0	20.5	20.0
25	pH	7.9		8.2
	O2 ppm	9.0		8.5
	Cond.	353		359
	Temp(C)	19.0	20.5	20.0
13	pH	8.1		8.3
	O2 ppm	9.0		8.5
	Cond.	326		331
	Temp(C)	19.0	20.5	20.0
6	pH	8.3		8.3
	O2 ppm	9.0		8.5
	Cond.	311		317
	Temp(C)	19.0	20.5	20.0
Control	pH	8.5		8.4
	O2 ppm	9.0		8.2
	Cond.	301		305
	Temp(C)	19.0	20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900167

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	1	8
Control	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900167

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	6.9		7.7
	O2 ppm	8.2		9.8
	Cond.	596		597
	Temp(C)	20.0	20.5	20.5
50	pH	7.5		8.2
	O2 ppm	8.0		9.9
	Cond.	449		447
	Temp(C)	20.0	20.5	20.5
25	pH	7.9		8.4
	O2 ppm	7.9		10.0
	Cond.	376		376
	Temp(C)	20.0	20.5	20.5
13	pH	8.2		8.4
	O2 ppm	7.9		10.0
	Cond.	341		344
	Temp(C)	20.0	20.5	20.5
6	pH	8.2		8.5
	O2 ppm	7.8		10.0
	Cond.	320		327
	Temp(C)	20.0	20.5	20.5
Control	pH	8.5		8.5
	O2 ppm	8.1		9.9
	Cond.	303		305
	Temp(C)	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900233

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1610

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	1	1	8
25	0	1	2	16
13	0	0	0	0
6	0	0	0	0
Control	0	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900233

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.3		7.8
	O2 ppm	9.3		8.7
	Cond.	423		432
	Temp(C)	20.0	20.0	20.0
50	pH	7.7		8.0
	O2 ppm	8.9		8.8
	Cond.	360		365
	Temp(C)	20.0	20.0	20.0
25	pH	8.0		8.1
	O2 ppm	8.8		8.8
	Cond.	330		334
	Temp(C)	20.0	20.0	20.0
13	pH	8.1		8.2
	O2 ppm	8.6		8.9
	Cond.	314		319
	Temp(C)	20.0	20.0	20.0
6	pH	8.1		8.2
	O2 ppm	8.3		8.8
	Cond.	301		309
	Temp(C)	20.0	20.0	20.0
Control	pH	8.3		8.3
	O2 ppm	8.4		8.9
	Cond.	295		297
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890302

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890302

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.0			9.4
	Cond.	301			304
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.4
	O2 ppm	8.2			9.4
	Cond.	308			313
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.4
	O2 ppm	8.3			9.4
	Cond.	318			315
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4			8.3
	O2 ppm	8.3			9.5
	Cond.	326			322
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.3			8.3
	O2 ppm	8.4			9.4
	Cond.	341			336
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.1			8.2
	O2 ppm	8.7			9.2
	Cond.	371			365
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890390

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890390

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.6		8.8
	Cond.	348		353
	Temp(C)	19.5	20.0	20.0
50	pH	8.2		8.3
	O2 ppm	9.1		8.8
	Cond.	326		329
	Temp(C)	19.5	20.0	20.0
25	pH	8.3		8.3
	O2 ppm	8.9		8.7
	Cond.	313		317
	Temp(C)	19.5	20.0	20.0
13	pH	8.3		8.3
	O2 ppm	8.8		8.7
	Cond.	307		313
	Temp(C)	19.5	20.0	20.0
6	pH	8.3		8.3
	O2 ppm	8.8		8.7
	Cond.	301		311
	Temp(C)	19.5	20.0	20.0
Control	pH	8.3		8.2
	O2 ppm	8.8		8.5
	Cond.	302		305
	Temp(C)	19.5	20.0	20.0

COMPANY: Dow Chemical Canada Inc., Sarnia (910109)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for forty-three trout bioassays, conducted on process effluent, combined effluent and once through cooling water effluent samples collected between October 1989 and March 1990, were provided by Dow Chemical Canada Incorporated. All six samples collected from combined effluent control point 0200 were determined to have been non-acutely lethal to test fish. One audit sample collected in March and tested by the O.M.E. laboratory was also non-acutely lethal. All six samples from combined effluent control point 0500 were also non-acutely lethal. An audit sample collected in March was also non-acutely lethal. All six samples from combined effluent control point 0600 were non-acutely lethal. The audit sample collected in March was similiarily determined as non-acutely lethal. All six samples collected from combined effluent 0700 were determined to have been non-acutely lethal. The audit sample collected in March was also non-acutely lethal. Five of six samples from the combined effluent control point 0900 were determined to have been non-acutely lethal while the remaining had a 96 hour LC50 > 100 %. The audit sample collected in March was non-acutely lethal. All twelve once through cooling water samples from control point 0300 and 1000 were non-acutely lethal. The two audit samples for the two OTCW discharges were also non-acutely lethal. Four of five process effluent samples collected from control point 2100 were determined to have been non-lethal. The remaining sample and the audit sample collected in March had a 96 hour LC50s > 100 %.

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intake water

combined effluent

03890206 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890256 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890359 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900018 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900111 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

01900028 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900209 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

OT cooling water

03890203 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03890261 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Don Lethal

03900016 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

01900027 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900210 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890207 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03890257 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890360 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900015 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900112 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

01900029 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900211 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890209 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890258 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890356 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900013 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900113 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test - Non lethal

01900031 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900212 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890205 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890259 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890358 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900014 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900114 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

01900030 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900213 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890202 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non lethal

03890260 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890361 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900012 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900115 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration test

01900032 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900214 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

OT cooling water

03890204 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890262 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900017 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900035 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900215 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

intake water

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

03890274 sampled: 11/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890357 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03900011 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900116 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

01900034 sampled: 03/14/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900216 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

waste site

total plant

steam plant

north pump house

south pump house

rain gauge

MISA Trout

TOXICITY TEST REPORT Sample: 03890206

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890206

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	7.9					9.1
	Cond.	558					564
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.7					8.4
	O2 ppm	7.9					9.2
	Cond.	529					533
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.8					8.3
	O2 ppm	7.9					9.2
	Cond.	498					502
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.8					8.3
	O2 ppm	8.3					9.1
	Cond.	435					444
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8					8.1
	O2 ppm	8.4					8.8
	Cond.	359					364
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	8.2					7.8
	O2 ppm	8.5					8.7
	Cond.	241					249
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890256

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890256

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.6
	O2 ppm	7.5					9.7
	Cond.	561					560
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.9					9.7
	Cond.	534					534
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.5
	O2 ppm	8.0					9.8
	Cond.	504					502
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.8					8.3
	O2 ppm	8.4					9.4
	Cond.	436					440
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.9					8.4
	O2 ppm	9.2					9.7
	Cond.	352					354
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.1					8.2
	O2 ppm	9.7					9.8
	Cond.	236					245
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890359

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Effluent
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890359

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.2				8.2
	O2 ppm	9.8				9.9
	Cond.	245				254
	Temp(C)	15.0	14.0	14.0	15.0	14.0
65	pH	8.0				8.3
	O2 ppm	9.2				10.0
	Cond.	359				371
	Temp(C)	15.0	14.0	14.0	15.0	14.0
40	pH	8.0				8.3
	O2 ppm	9.0				10.0
	Cond.	438				448
	Temp(C)	15.0	14.0	14.0	15.0	14.0
20	pH	8.0				8.5
	O2 ppm	8.6				10.2
	Cond.	501				510
	Temp(C)	15.0	14.0	14.0	15.0	14.0
10	pH	8.0				8.4
	O2 ppm	8.6				9.7
	Cond.	531				536
	Temp(C)	15.0	14.0	14.0	15.0	14.0
5	pH	8.0				8.5
	O2 ppm	8.5				10.0
	Cond.	546				550
	Temp(C)	15.0	14.0	14.0	15.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.7				10.0
	Cond.	554				552
	Temp(C)	15.0	14.0	14.0	15.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900018

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900018

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.1
	O2 ppm	10.4				9.7
	Cond.	258				243
	Temp(C)	15.0	14.5	15.0	15.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.1				9.6
	Cond.	563				560
	Temp(C)	15.0	14.5	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900111

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900111

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.1
	O2 ppm	10.1				8.9
	Cond.	230				238
	Temp(C)	15.0	15.0	14.0	14.0	14.0
100	pH	8.1				8.0
	O2 ppm	10.1				9.3
	Cond.	230				241
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	9.2				9.2
	Cond.	533				531
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	9.2				9.2
	Cond.	533				530
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900028

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilon
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:00	50:00	74:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900028

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:00	50:00	74:00	96:0
100	pH	6.4		7.6		7.5	7.4	7.3		7.
	O2 ppm	9.7		9.6		9.6	9.5	8.7		9.
	Cond.	200		175		175	175	180		18
	Temp(C)	15.0		15.0		15.0	15.0	15.0		15.
65	pH			7.5		7.5	7.4	7.6		7.
	O2 ppm			9.6		9.5	9.6	9.7		9.
	Cond.			205		200	205	205		21
	Temp(C)			15.0		15.0	15.0	15.0		15.
40	pH			7.5		7.4	7.4	7.6		7.
	O2 ppm			9.7		9.5	9.7	9.8		9.
	Cond.			225		225	230	230		23
	Temp(C)			15.0		15.0	15.0	15.0		15.
30	pH			7.5		7.3	7.3	7.5		7.
	O2 ppm			9.6		9.1	9.6	9.7		9.
	Cond.			235		235	235	240		24
	Temp(C)			15.0		15.0	15.0	15.0		15.
20	pH			7.5		7.6	7.4	7.5		7.
	O2 ppm			9.6		9.7	9.7	10.0		9.
	Cond.			245		245	245	250		25
	Temp(C)			15.0		15.0	15.0	15.0		15.
10	pH			7.5		7.5	7.4	7.6		7.
	O2 ppm			9.7		9.6	9.7	10.0		9.
	Cond.			255		250	255	260		26
	Temp(C)			15.0		15.0	15.0	15.0		15.
Control	pH			7.4		7.4	7.4	7.7		7.
	O2 ppm			9.4		9.8	9.8	9.9		10.
	Cond.			260		260	265	265		27
	Temp(C)			15.0		15.0	15.0	15.0		15.

MISA Trout

TOXICITY TEST REPORT Sample: 03900209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1610

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900209

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.2
	O2 ppm	10.8				10.3
	Cond.	247				242
	Temp(C)	15.0	14.0	15.0	15.0	14.5
100	pH	7.9				8.1
	O2 ppm	10.8				10.1
	Cond.	247				241
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.2				9.9
	Cond.	549				541
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.2				9.9
	Cond.	549				540
	Temp(C)	15.0	14.0	15.0	15.0	14.5

TOXICITY TEST REPORT Sample: 03890203

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890203

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.6					8.5
	O2 ppm	7.4					9.4
	Cond.	555					482
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
10	pH	7.8					8.4
	O2 ppm	8.4					8.7
	Cond.	536					540
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.9					8.4
	O2 ppm	8.5					9.0
	Cond.	505					506
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.9					8.3
	O2 ppm	8.6					8.7
	Cond.	439					447
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	8.0					8.2
	O2 ppm	8.8					8.8
	Cond.	357					365
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.1					8.0
	O2 ppm	8.8					8.8
	Cond.	238					247
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890261

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Don Lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890261

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.5
	O2 ppm	7.8					9.7
	Cond.	560					548
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.9					9.7
	Cond.	527					517
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.4
	O2 ppm	8.0					9.6
	Cond.	496					485
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.8					8.5
	O2 ppm	8.5					9.7
	Cond.	433					426
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.8					8.4
	O2 ppm	8.8					9.8
	Cond.	351					352
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.1					8.1
	O2 ppm	9.7					9.7
	Cond.	234					241
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900016

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	1	5
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900016

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.2				8.2
	O2 ppm	10.3				9.6
	Cond.	242				244
	Temp(C)	15.0	14.0	15.0	15.0	15.0
Control	pH	7.9				8.4
	O2 ppm	9.1				9.7
	Cond.	563				535
	Temp(C)	15.0	14.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900027

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/08/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	24:10	53:00	78:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900027

TEST CONC. %		ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	24:10	53:00	78:10	96:0
100	pH	7.3		7.5	7.8	7.4	7.6	7.		
	O2 ppm	9.8		9.9	9.6	9.6	9.8	9.		
	Cond.	175		175	175	175	180	18		
	Temp(C)	15.0		15.0	15.0	15.0	15.0	15.		
65	pH			7.5	7.7	7.5	7.7	7.		
	O2 ppm			9.8	9.8	9.8	10.1	9.		
	Cond.			205	200	205	205	20		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
40	pH			7.5	7.4	7.3	7.6	7.		
	O2 ppm			9.8	9.4	9.6	9.6	9.		
	Cond.			225	225	230	235	23		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
30	pH			7.5	7.4	7.3	7.4	7.		
	O2 ppm			9.8	9.4	9.7	9.4	9.		
	Cond.			235	235	235	240	24		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
20	pH			7.5	7.5	7.4	7.5	7.		
	O2 ppm			9.8	9.8	9.8	9.9	9.		
	Cond.			245	245	245	255	25		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
10	pH			7.5	7.3	7.3	7.3	7.		
	O2 ppm			9.8	9.4	9.2	9.6	9.		
	Cond.			250	250	255	260	26		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
Control	pH			7.4	7.4	7.3	7.2	7.		
	O2 ppm			9.7	9.4	9.7	9.8	9.		
	Cond.			265	265	265	270	27		
	Temp(C)			15.0	15.0	15.0	15.0	15.		

MISA Trout

TOXICITY TEST REPORT Sample: 03900210

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1610

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900210

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.0
	O2 ppm	11.2				10.0
	Cond.	231				234
	Temp(C)	15.0	14.0	15.0	15.0	14.0
100	pH	8.0				8.1
	O2 ppm	11.2				10.1
	Cond.	231				236
	Temp(C)	15.0	14.0	15.0	15.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.2				10.1
	Cond.	549				543
	Temp(C)	15.0	14.0	15.0	15.0	14.0
Control	pH	7.9				8.3
	O2 ppm	8.2				9.9
	Cond.	549				541
	Temp(C)	15.0	14.0	15.0	15.0	14.0

TOXICITY TEST REPORT Sample: 03890207

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890207

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	7.9					9.1
	Cond.	558					564
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.6					8.3
	O2 ppm	8.8					9.0
	Cond.	574					577
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.7					8.2
	O2 ppm	7.5					8.7
	Cond.	593					597
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.7					8.2
	O2 ppm	7.8					8.9
	Cond.	626					627
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8					8.2
	O2 ppm	8.3					9.1
	Cond.	656					667
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	8.2					7.9
	O2 ppm	8.6					9.0
	Cond.	718					722
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890257

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890257

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.6					8.5
	O2 ppm	7.0					9.6
	Cond.	559					559
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.2					9.7
	Cond.	572					578
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.5
	O2 ppm	7.1					9.6
	Cond.	588					588
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.8					8.4
	O2 ppm	7.8					9.7
	Cond.	617					637
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.9					8.4
	O2 ppm	8.1					9.6
	Cond.	657					682
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.2					8.4
	O2 ppm	9.4					9.7
	Cond.	712					740
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890360

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 930

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890360

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.3
	O2 ppm	9.5				10.0
	Cond.	1821				1847
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	8.0				8.3
	O2 ppm	9.1				9.6
	Cond.	1390				1403
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.2
	O2 ppm	8.9				9.2
	Cond.	1071				1078
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.3
	O2 ppm	8.7				8.7
	Cond.	811				819
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.4
	O2 ppm	8.7				9.7
	Cond.	701				699
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.3
	O2 ppm	8.7				9.3
	Cond.	618				631
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.7				9.2
	Cond.	554				557
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900015

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900015

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.2				8.4
	O2 ppm	10.3				9.7
	Cond.	1597				1613
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	9.1				9.9
	Cond.	563				547
	Temp(C)	15.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900112

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900112

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.1
	O2 ppm	10.1				9.4
	Cond.	1273				1331
	Temp(C)	15.0	15.0	14.0	14.0	14.0
100	pH	8.1				8.1
	O2 ppm	10.1				8.8
	Cond.	1273				1318
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	9.2				8.8
	Cond.	533				542
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.2				9.5
	Cond.	533				540
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900029

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:30	50:00	74:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900029

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:30	50:00	74:30	96:0
100	pH	0.7		7.8		7.7	7.8	7.9	8.	
	O2 ppm	9.8		9.7		8.8	9.6	9.8	9.	
	Cond.	980		980		760	960	980	100	
	Temp(C)	15.0		15.0		15.0	15.0	15.0	15.	
65	pH			7.8		7.8	7.7	7.8	7.	
	O2 ppm			9.8		9.7	9.6	9.8	9.	
	Cond.			740		720	720	740	74	
	Temp(C)			15.0		15.0	15.0	15.0	15.	
40	pH			7.7		7.8	7.7	7.8	7.	
	O2 ppm			9.7		9.7	9.7	9.8	9.	
	Cond.			560		550	540	560	56	
	Temp(C)			15.0		15.0	15.0	15.0	15.	
30	pH			7.6		7.7	7.7	7.8	7.	
	O2 ppm			9.8		9.7	9.7	9.8	9.	
	Cond.			485		475	480	485	49	
	Temp(C)			15.0		15.0	15.0	15.0	15.	
20	pH			7.5		7.4	7.3	7.4	7.	
	O2 ppm			9.6		9.0	8.8	8.9	8.	
	Cond.			410		410	405	415	41	
	Temp(C)			15.0		15.0	15.0	15.0	15.	
10	pH			7.5		7.3	7.6	7.8	7.	
	O2 ppm			9.7		8.0	9.8	9.8	9.	
	Cond.			355		355	350	355	36	
	Temp(C)			15.0		15.0	15.0	15.0	15.	
Control	pH			7.4		7.5	7.4	7.6	7.	
	O2 ppm			9.6		9.6	9.7	9.7	9.	
	Cond.			265		260	260	270	27	
	Temp(C)			15.0		15.0	15.0	15.0	15.	

MISA Trout

TOXICITY TEST REPORT Sample: 03900211

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1740

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900211

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.0
	O2 ppm	10.5				10.1
	Cond.	338				338
	Temp(C)	15.0	14.0	15.0	15.0	14.5
100	pH	8.1				8.0
	O2 ppm	10.5				9.6
	Cond.	338				341
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.3
	O2 ppm	8.2				9.8
	Cond.	549				539
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.2
	O2 ppm	8.2				9.8
	Cond.	549				542
	Temp(C)	15.0	14.0	15.0	15.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890209

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	7.9					9.1
	Cond.	558					564
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.8					8.4
	O2 ppm	7.9					9.0
	Cond.	528					534
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.8					8.4
	O2 ppm	8.2					9.0
	Cond.	496					504
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.8					8.2
	O2 ppm	8.2					8.9
	Cond.	436					445
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.9					8.0
	O2 ppm	8.4					8.8
	Cond.	357					367
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	8.1					8.0
	O2 ppm	8.7					9.2
	Cond.	244					255
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890258

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890258

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.5
	O2 ppm	7.2					9.4
	Cond.	563					561
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.4					9.7
	Cond.	534					535
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.4
	O2 ppm	8.1					9.6
	Cond.	497					511
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.7					8.4
	O2 ppm	8.4					9.8
	Cond.	435					455
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.8					8.3
	O2 ppm	8.8					9.5
	Cond.	357					362
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.0					8.2
	O2 ppm	9.5					9.6
	Cond.	238					250
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890356

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890356

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.0
	O2 ppm	9.1				9.2
	Cond.	259				268
	Temp(C)	14.0	14.0	14.0	14.0	14.0
65	pH	8.0				8.0
	O2 ppm	9.2				8.8
	Cond.	365				375
	Temp(C)	14.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.4
	O2 ppm	9.0				9.4
	Cond.	440				447
	Temp(C)	14.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.4
	O2 ppm	8.7				9.2
	Cond.	498				500
	Temp(C)	14.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.4
	O2 ppm	8.6				9.0
	Cond.	526				523
	Temp(C)	14.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	8.1				9.2
	Cond.	539				539
	Temp(C)	14.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.7				9.3
	Cond.	554				557
	Temp(C)	14.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900013

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900013

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.0
	O2 ppm	10.1				9.0
	Cond.	250				260
	Temp(C)	15.0	14.0	15.0	15.0	15.0
Control	pH	8.0				8.3
	O2 ppm	9.1				8.9
	Cond.	563				575
	Temp(C)	15.0	14.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900113

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test - Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900113

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.1
	O2 ppm	10.1				9.3
	Cond.	234				249
	Temp(C)	15.0	15.0	14.0	14.0	14.0
100	pH	8.1				8.2
	O2 ppm	10.1				9.6
	Cond.	234				253
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	8.0				8.5
	O2 ppm	9.2				9.2
	Cond.	541				529
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	8.0				8.5
	O2 ppm	9.2				8.5
	Cond.	541				536
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900031

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	21:00	50:30	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900031

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	21:00	50:30	72:00	96:0
100	pH	7.4			7.5	7.5	7.4	7.6		7.
	O2 ppm	9.2			9.6	9.6	9.5	9.7		9.
	Cond.	180			180	180	180	185		18
	Temp(C)	15.0			15.0	15.0	15.0	15.0		15.
65	pH				7.4	7.6	7.5	7.6		7.
	O2 ppm				9.7	9.9	9.6	9.9		9.
	Cond.				210	205	210	215		21
	Temp(C)				15.0	15.0	15.0	15.0		15.
40	pH				7.4	7.5	7.5	7.7		7.
	O2 ppm				9.8	9.8	9.8	9.8		9.
	Cond.				235	230	230	235		23
	Temp(C)				15.0	15.0	15.0	15.0		15.
30	pH				7.4	7.5	7.5	7.6		7.
	O2 ppm				9.7	9.8	10.0	10.1		10.
	Cond.				245	245	240	245		23
	Temp(C)				15.0	15.0	15.0	15.0		15.
20	pH				7.1	7.6	7.6	7.7		7.
	O2 ppm				9.6	9.9	9.9	9.9		10.
	Cond.				280	250	250	250		26
	Temp(C)				15.0	15.0	15.0	15.0		15.
10	pH				7.3	7.6	7.6	7.7		7.
	O2 ppm				9.7	9.7	9.6	9.8		9.
	Cond.				260	255	260	260		26
	Temp(C)				15.0	15.0	15.0	15.0		15.
Control	pH				7.0	7.6	7.6	7.8		7.
	O2 ppm				9.8	9.9	9.8	9.8		9.
	Cond.				270	265	265	270		27
	Temp(C)				15.0	15.0	15.0	15.0		15.

MISA Trout

TOXICITY TEST REPORT Sample: 03900212

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900212

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.0
	O2 ppm	10.8				10.0
	Cond.	253				250
	Temp(C)	15.0	14.0	15.0	15.0	14.5
100	pH	8.0				8.0
	O2 ppm	10.8				10.2
	Cond.	253				250
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.2				10.2
	Cond.	549				542
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.2				10.2
	Cond.	549				537
	Temp(C)	15.0	14.0	15.0	15.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890205

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890205

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.6					8.4
	O2 ppm	7.4					8.9
	Cond.	555					568
	Temp(C)	15.5	15.0	15.0	15.0	15.0	
10	pH	7.7					8.4
	O2 ppm	7.9					8.7
	Cond.	531					535
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.8					8.4
	O2 ppm	8.1					9.0
	Cond.	501					505
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.8					8.3
	O2 ppm	8.3					8.7
	Cond.	439					448
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	7.8					8.1
	O2 ppm	8.3					8.5
	Cond.	360					369
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.0					7.9
	O2 ppm	8.6					8.6
	Cond.	244					256
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890259

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890259

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.5
	O2 ppm	7.2					9.7
	Cond.	560					554
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.3					9.6
	Cond.	540					534
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.4
	O2 ppm	7.3					9.7
	Cond.	500					498
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.7					8.5
	O2 ppm	8.0					9.7
	Cond.	440					446
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.9					8.1
	O2 ppm	8.3					9.6
	Cond.	356					369
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.2					8.0
	O2 ppm	9.5					9.4
	Cond.	236					245
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890358

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Mclaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890358

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				7.8
	O2 ppm	9.5				8.7
	Cond.	251				261
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	8.1				7.9
	O2 ppm	9.6				9.0
	Cond.	254				262
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.0
	O2 ppm	8.9				8.6
	Cond.	436				450
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.4
	O2 ppm	8.8				9.9
	Cond.	499				507
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.4
	O2 ppm	8.6				9.6
	Cond.	526				535
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	8.7				9.9
	Cond.	554				558
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.7				9.3
	Cond.	534				554
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900014

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900014

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.1
	O2 ppm	10.5				9.1
	Cond.	247				258
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	9.1				9.2
	Cond.	563				580
	Temp(C)	15.0	14.0	15.0	15.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900114

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900114

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.0
	O2 ppm	10.1				8.8
	Cond.	228				236
	Temp(C)	15.0	15.0	14.0	14.0	14.0
100	pH	8.1				8.2
	O2 ppm	10.1				9.7
	Cond.	228				236
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.3				9.5
	Cond.	533				537
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.3				9.1
	Cond.	533				536
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900030

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/05/90
Tested : 03/08/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	54:00	78:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900030

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	24:00	54:00	78:00	96:0
100	pH	7.4		7.5	7.5	7.3	7.5	7.		
	O2 ppm	9.1		9.4	9.4	9.3	9.4	9.		
	Cond.	175		175	175	175	180	18		
	Temp(C)	15.0		15.0	15.0	15.0	15.0	15.		
65	pH			7.4	7.4	7.3	7.5	7.		
	O2 ppm			9.6	9.4	9.3	9.3	9.		
	Cond.			205	206	210	210	21		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
40	pH			7.3	7.5	7.4	7.6	7.		
	O2 ppm			9.6	9.6	9.5	9.6	9.		
	Cond.			225	230	235	235	24		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
30	pH			6.9	7.6	7.6	7.7	7.		
	O2 ppm			9.6	9.6	9.6	9.7	9.		
	Cond.			230	240	240	245	25		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
20	pH			7.5	7.5	7.5	7.6	7.		
	O2 ppm			9.6	9.6	9.5	9.5	9.		
	Cond.			240	250	255	250	26		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
10	pH			7.5	7.5	7.5	7.6	7.		
	O2 ppm			9.8	9.5	9.4	9.5	9.		
	Cond.			250	255	260	265	26		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
Control	pH			7.4	7.5	7.5	7.7	7.		
	O2 ppm			9.7	9.7	9.7	9.7	9.		
	Cond.			280	270	270	275	27		
	Temp(C)			15.0	15.0	15.0	15.0	15.		

MISA Trout

TOXICITY TEST REPORT Sample: 03900213

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900213

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.0
	O2 ppm	10.2				10.2
	Cond.	237				240
	Temp(C)	15.0	14.0	15.0	15.0	14.5
100	pH	8.1				8.1
	O2 ppm	10.2				10.2
	Cond.	237				241
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.4				10.2
	Cond.	546				534
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.4				10.1
	Cond.	546				536
	Temp(C)	15.0	14.0	15.0	15.0	14.5

TOXICITY TEST REPORT Sample: 03890202

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890202

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.6					8.4
	O2 ppm	7.4					8.9
	Cond.	555					567
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
10	pH	7.7					8.3
	O2 ppm	8.1					8.8
	Cond.	855					884
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.8					8.3
	O2 ppm	8.3					8.6
	Cond.	1150					1173
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.9					8.3
	O2 ppm	8.6					8.7
	Cond.	1780					1783
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	8.0					8.2
	O2 ppm	8.7					8.9
	Cond.	2520					2540
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.4					7.9
	O2 ppm	9.0					8.7
	Cond.	3550					3580
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890260

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890260

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.5
	O2 ppm	7.4					9.5
	Cond.	560					556
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.4					9.7
	Cond.	862					856
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.5
	O2 ppm	7.8					9.8
	Cond.	1177					1167
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.8					8.3
	O2 ppm	8.4					9.5
	Cond.	1773					1787
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	8.0					8.3
	O2 ppm	8.9					9.7
	Cond.	2520					2530
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.5					7.8
	O2 ppm	9.3					9.6
	Cond.	3550					3580
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890361

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Mclaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890361

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				7.9
	O2 ppm	9.9				9.1
	Cond.	3710				3770
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	8.1				8.0
	O2 ppm	9.6				8.9
	Cond.	2680				2660
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.2
	O2 ppm	9.0				9.7
	Cond.	1841				1870
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.2
	O2 ppm	8.8				9.9
	Cond.	1202				1214
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.4
	O2 ppm	8.6				9.8
	Cond.	882				884
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	8.3				8.9
	Cond.	713				725
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.7				9.3
	Cond.	554				559
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900012

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	1	1	1	5
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900012

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				7.9
	O2 ppm	10.3				9.0
	Cond.	3640				3640
	Temp(C)	15.0	14.0	15.0	15.0	15.0
Control	pH	7.9				8.4
	O2 ppm	9.1				9.3
	Cond.	563				557
	Temp(C)	15.0	14.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900115

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration test

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900115

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.7				8.1
	O2 ppm	10.2				8.9
	Cond.	2990				3130
	Temp(C)	15.0	15.0	14.0	14.0	14.0
100	pH	8.7				8.1
	O2 ppm	10.2				9.2
	Cond.	2990				3100
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	9.2				9.6
	Cond.	543				540
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.2				9.5
	Cond.	543				544
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900032

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	21:30	42:00	66:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900032

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	21:30	42:00	66:30	96:0
100	pH	7.7		7.6	7.4	7.2	7.2	7.		
	O2 ppm	9.2		9.2	8.3	8.3	8.1	7.		
	Cond.	2000		1950	1960	1980	2000	200		
	Temp(C)	15.0		15.0	15.0	15.0	15.0	15.		
65	pH			7.6	7.6	7.6	7.6	7.		
	O2 ppm			9.7	9.6	9.5	9.4	9.		
	Cond.			1400	1390	1400	1420	142		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
40	pH			7.6	7.5	7.7	7.7	7.		
	O2 ppm			9.9	9.8	9.7	9.8	9.		
	Cond.			960	950	960	980	98		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
30	pH			7.6	7.6	7.6	7.7	7.		
	O2 ppm			9.8	9.7	9.6	9.9	9.		
	Cond.			790	785	790	800	80		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
20	pH			7.5	7.6	7.6	7.7	7.		
	O2 ppm			9.8	9.8	9.8	9.8	9.		
	Cond.			620	620	620	640	64		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
10	pH			7.5	7.7	7.6	7.7	7.		
	O2 ppm			9.9	9.9	9.9	10.0	10.		
	Cond.			475	470	480	485	49		
	Temp(C)			15.0	15.0	15.0	15.0	15.		
Control	pH			7.6	7.6	7.6	7.7	7.		
	O2 ppm			9.9	9.9	9.8	9.9	9.		
	Cond.			275	275	275	280	27		
	Temp(C)			15.0	15.0	15.0	15.0	15.		

MISA Trout

TOXICITY TEST REPORT Sample: 03900214

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1640

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900214

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.0
	O2 ppm	9.9				10.1
	Cond.	1655				1673
	Temp(C)	15.0	14.0	15.0	15.0	14.5
100	pH	8.0				8.0
	O2 ppm	9.9				10.2
	Cond.	1655				1672
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.3				10.3
	Cond.	546				539
	Temp(C)	15.0	14.0	15.0	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.3				10.2
	Cond.	546				536
	Temp(C)	15.0	14.0	15.0	15.0	14.5

TOXICITY TEST REPORT Sample: 03890204

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890204

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.6					8.4
	O2 ppm	7.4					8.5
	Cond.	555					565
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
10	pH	7.8					8.4
	O2 ppm	8.3					8.9
	Cond.	532					536
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.9					8.3
	O2 ppm	8.6					8.7
	Cond.	503					510
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.7					8.3
	O2 ppm	8.0					8.9
	Cond.	443					449
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	7.9					8.2
	O2 ppm	8.5					8.9
	Cond.	365					374
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.0					7.9
	O2 ppm	8.7					8.7
	Cond.	252					261
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03890262

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890262

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.5
	O2 ppm	7.9					9.4
	Cond.	566					554
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.6
	O2 ppm	8.1					9.6
	Cond.	539					521
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.8					8.6
	O2 ppm	8.6					9.7
	Cond.	507					502
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.9					8.5
	O2 ppm	9.5					9.7
	Cond.	444					446
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	8.1					8.4
	O2 ppm	9.8					9.8
	Cond.	365					364
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.3					8.2
	O2 ppm	9.9					9.7
	Cond.	255					259
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900017

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 11:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900017

TEST CONC. %		ELAPSED TIME 11:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	10.4				9.6
	Cond.	274				284
	Temp(C)	15.0	14.0	15.0	15.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.1				9.7
	Cond.	563				559
	Temp(C)	15.0	14.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900035

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/16/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:10	01:00	23:00	51:00	71:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900035

TEST CONC. %		ELAPSED TIME 00:00	01:10	01:00	23:00	51:00	71:00	96:00
100	pH	7.6		7.8	7.8	7.7	7.7
	O2 ppm	9.8		10.5	10.6	10.3	10.2
	Cond.	190		200	195	191	195
	Temp(C)	15.0		15.0	15.0	15.0	15.0
65	pH			7.9	7.9	7.8	7.9
	O2 ppm			10.6	10.8	10.4	10.4
	Cond.			240	235	235	240
	Temp(C)			15.0	15.0	15.0	15.0
40	pH			7.9	7.9	7.8	7.9
	O2 ppm			10.7	10.8	10.4	10.4
	Cond.			225	220	220	220
	Temp(C)			15.0	15.0	15.0	15.0
30	pH			7.8	7.8	7.8	7.9
	O2 ppm			10.5	10.8	10.4	10.3
	Cond.			255	250	250	255
	Temp(C)			15.0	15.0	15.0	15.0
20	pH			7.7	7.8	7.6	7.8
	O2 ppm			10.4	10.6	10.1	10.0
	Cond.			250	245	245	250
	Temp(C)			15.0	15.0	15.0	15.0
10	pH			7.7	7.9	7.8	7.8
	O2 ppm			10.5	10.9	10.3	10.3
	Cond.			270	270	265	275
	Temp(C)			15.0	15.0	15.0	15.0
Control	pH			7.5	7.9	7.7	7.9
	O2 ppm			10.4	10.6	10.4	10.3
	Cond.			260	240	255	265
	Temp(C)			15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900215

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900215

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.0
	O2 ppm	10.0				10.4
	Cond.	952				974
	Temp(C)	15.0	14.0	15.0	14.5	14.0
100	pH	8.0				8.0
	O2 ppm	10.0				10.4
	Cond.	952				974
	Temp(C)	15.0	14.0	15.0	14.5	14.0
Control	pH	7.9				8.5
	O2 ppm	8.3				10.4
	Cond.	545				535
	Temp(C)	15.0	14.0	15.0	14.5	14.0
Control	pH	7.9				8.4
	O2 ppm	8.3				10.1
	Cond.	545				543
	Temp(C)	15.0	14.0	15.0	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890274

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/18/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890274

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.6
	O2 ppm	8.6					9.9
	Cond.	558					530
	Temp(C)	15.0	15.0	14.0	15.0	14.0	14.0
10	pH	7.8					8.6
	O2 ppm	8.9					9.9
	Cond.	1263					1236
	Temp(C)	15.0	15.0	14.0	15.0	14.0	14.0
20	pH	7.8					8.6
	O2 ppm	8.8					9.8
	Cond.	1960					1914
	Temp(C)	15.0	15.0	14.0	15.0	14.0	14.0
40	pH	7.8					8.5
	O2 ppm	8.7					9.8
	Cond.	3400					3360
	Temp(C)	15.0	15.0	14.0	15.0	14.0	14.0
65	pH	7.7					8.4
	O2 ppm	8.5					9.8
	Cond.	5040					4950
	Temp(C)	15.0	15.0	14.0	15.0	14.0	14.0
100	pH	7.6					8.2
	O2 ppm	8.4					9.6
	Cond.	7330					7250
	Temp(C)	15.0	15.0	14.0	15.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890357

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	4	4	4	40
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890357

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.0				7.8
	O2 ppm	7.0				7.0
	Cond.	1198				1245
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.4				8.0
	O2 ppm	7.3				8.5
	Cond.	8220				8560
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.6				8.1
	O2 ppm	7.6				8.8
	Cond.	5250				5460
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.7				8.3
	O2 ppm	7.6				9.7
	Cond.	3010				3100
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.7				8.3
	O2 ppm	7.6				9.8
	Cond.	1851				1874
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	7.6				9.5
	Cond.	1162				1207
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.7				9.3
	Cond.	561				557
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900011

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900011

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.4				8.1
	O2 ppm	7.4				9.0
	Cond.	4150				4170
	Temp(C)	15.0	14.0	15.0	15.0	15.0
65	pH	8.3				8.3
	O2 ppm	7.7				9.3
	Cond.	2970				2980
	Temp(C)	15.0	14.0	15.0	15.0	15.0
40	pH	8.3				8.3
	O2 ppm	8.0				9.4
	Cond.	2060				2060
	Temp(C)	15.0	14.0	15.0	15.0	15.0
20	pH	8.2				8.3
	O2 ppm	8.6				9.1
	Cond.	1305				1307
	Temp(C)	15.0	14.0	15.0	15.0	15.0
10	pH	8.2				8.3
	O2 ppm	8.5				9.3
	Cond.	933				934
	Temp(C)	15.0	14.0	15.0	15.0	15.0
5	pH	8.2				8.5
	O2 ppm	8.4				9.7
	Cond.	735				735
	Temp(C)	15.0	14.0	15.0	15.0	15.0
Control	pH	8.1				8.4
	O2 ppm	8.2				9.5
	Cond.	565				564
	Temp(C)	15.0	14.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900116

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900116

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.3				8.1
	O2 ppm	7.1				9.5
	Cond.	3580				3620
	Temp(C)	15.0	15.0	14.0	14.0	14.0
65	pH	8.1				8.3
	O2 ppm	7.8				9.6
	Cond.	2570				2560
	Temp(C)	15.0	15.0	14.0	14.0	14.0
40	pH	8.0				8.4
	O2 ppm	8.4				9.2
	Cond.	1824				1797
	Temp(C)	15.0	15.0	14.0	14.0	14.0
20	pH	8.0				8.4
	O2 ppm	8.9				8.2
	Cond.	1187				1166
	Temp(C)	15.0	15.0	14.0	14.0	14.0
10	pH	8.0				8.5
	O2 ppm	9.2				9.5
	Cond.	867				849
	Temp(C)	15.0	15.0	14.0	14.0	14.0
5	pH	8.0				8.3
	O2 ppm	9.3				8.9
	Cond.	715				689
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.2				9.0
	Cond.	551				527
	Temp(C)	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900034

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/14/90
Received : 03/13/90
Tested : 03/16/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	22:30	50:00	70:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0	1	10
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900034

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	22:30	50:00	70:00	96:00
100	pH	7.6		7.6	7.9	8.0	8.0	8.1	
	O2 ppm	8.9		9.0	10.1	10.3	9.8	9.8	
	Cond.	2400		2350	2300	2400	2380	2400	
	Temp(C)	15.0		15.0	15.0	15.0	15.0	15.0	
65	pH			7.7	7.9	8.0	8.0	8.1	
	O2 ppm			9.2	10.2	10.4	10.2	10.0	
	Cond.			1650	1600	1650	1650	1700	
	Temp(C)			15.0	15.0	15.0	15.0	15.0	
40	pH			7.8	7.9	7.9	8.0	8.0	
	O2 ppm			9.3	10.3	10.4	10.1	10.0	
	Cond.			1150	1130	1170	1140	1160	
	Temp(C)			15.0	15.0	15.0	15.0	15.0	
30	pH			7.8	7.9	7.9	7.9	8.0	
	O2 ppm			9.6	10.4	10.5	10.0	10.0	
	Cond.			975	910	940	920	940	
	Temp(C)			15.0	15.0	15.0	15.0	15.0	
20	pH			7.9	7.9	7.9	7.9	8.0	
	O2 ppm			9.7	10.3	10.6	10.1	10.0	
	Cond.			750	730	700	720	740	
	Temp(C)			15.0	15.0	15.0	15.0	15.0	
10	pH			7.8	7.8	7.8	7.9	7.9	
	O2 ppm			9.8	10.3	10.5	10.2	10.1	
	Cond.			600	570	550	560	580	
	Temp(C)			15.0	15.0	15.0	15.0	15.0	
Control	pH			7.8	7.7	7.7	7.7	7.9	
	O2 ppm			9.8	10.3	10.6	10.3	10.3	
	Cond.			275	260	250	270	285	
	Temp(C)			15.0	15.0	15.0	15.0	15.0	

MISA Trout

TOXICITY TEST REPORT Sample: 03900216

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1620

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900216

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.7				7.8
	O2 ppm	7.0				9.6
	Cond.	3410				3420
	Temp(C)	15.0	14.0	15.0	14.5	14.0
65	pH	7.7				8.0
	O2 ppm	7.5				10.1
	Cond.	2410				2430
	Temp(C)	15.0	14.0	15.0	14.5	14.0
40	pH	7.8				8.0
	O2 ppm	8.2				9.7
	Cond.	1659				1709
	Temp(C)	15.0	14.0	15.0	14.5	14.0
20	pH	7.8				8.2
	O2 ppm	8.3				9.9
	Cond.	1134				1142
	Temp(C)	15.0	14.0	15.0	14.5	14.0
10	pH	7.9				8.2
	O2 ppm	8.6				9.9
	Cond.	830				830
	Temp(C)	15.0	14.0	15.0	14.5	14.0
5	pH	7.9				8.2
	O2 ppm	8.6				10.0
	Cond.	684				694
	Temp(C)	15.0	14.0	15.0	14.5	14.0
Control	pH	7.9				8.4
	O2 ppm	8.6				10.2
	Cond.	548				545
	Temp(C)	15.0	14.0	15.0	14.5	14.0

COMPANY: Dow Chemical Canada Inc., Sarnia (910109)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for forty-three Daphnia magna acute lethality toxicity tests conducted on samples of effluent collected between October 1989 and March 1990 were submitted by Dow Chemical Canada Inc. of Sarnia. Overall, the samples tested for Dow Chemical had little or no acute toxicity to Daphnia. In all test results submitted there were never more than three neonates dead in any one concentration of effluent and in most cases less than two animals died during the test.

Four of eight samples from once through cooling water outfalls #300 and 1000 were not acutely lethal to Daphnia. The remaining four samples had LC50s > 100%.

Five samples from process effluent #2100 were tested for toxicity to Daphnia. Three of these were not acutely lethal to Daphnia and the remaining two had 48 h LC50s > 100%.

Samples from the combined effluent outfalls (#200, 500, 600, 700, and 900) were rarely acutely toxic to Daphnia. Seventy-seven percent of the samples were nonlethal. The remaining seven samples had LC50s > 100%. Outfalls #200, 700, and 900 were toxic during the January sampling period, and outfalls #200 and 500 were toxic during the October sampling period.

In March, audit tests were conducted by Ministry Scientists on samples from all outfalls being examined at Dow Chemical. Once through cooling water #1000 was not acutely lethal to Daphnia, and OTCW #300 had an LC50 > 100%. Samples of combined effluent from outfalls #200, 500 and 900 were nonlethal, and only one neonate died in each of the tests with effluents from outfalls #600 and 700.

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intake water

combined effluent

03890206 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890256 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890359 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900018 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900111 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900028 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900209 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

OT cooling water

03890203 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890261 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900016 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900027 sampled: 03/04/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900210 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test: Non lethal

combined effluent

03890207 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: 16.7% mortality @ 6%

03890257 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890360 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900015 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900112 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900029 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900211 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890209 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890258 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890356 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%.

03900013 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900113 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900031 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900212 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890205 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890259 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890358 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900014 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900114 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900030 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900213 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890202 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal.

03890260 sampled: 11/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890361 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900012 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900115 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900032 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/high conductivity

03900214 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

OT cooling water

03890204 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: 16.7% mortality @ 13%

03890262 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03900017 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900035 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900215 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

intake water

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

03890274 sampled: 11/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890357 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

03900011 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900116 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900034 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/high conductivity, low D. O.

03900216 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

waste site

total plant

steam plant

north pump house

south pump house

rain gauge

TOXICITY TEST REPORT Sample: 03890206

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1730

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890206

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.2
	O2 ppm	8.8			9.3
	Cond.	301			304
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.3
	O2 ppm	8.7			9.4
	Cond.	294			309
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.3
	O2 ppm	8.6			9.0
	Cond.	288			294
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.3			8.3
	O2 ppm	8.6			8.9
	Cond.	282			287
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.3			8.2
	O2 ppm	8.7			8.8
	Cond.	267			274
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.2			8.1
	O2 ppm	8.7			8.6
	Cond.	237			244
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890256

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890256

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.2			8.1
	O2 ppm	8.7			8.7
	Cond.	292			301
	Temp(C)	20.5	20.5	20.0	19.0
6	pH	8.2			8.2
	O2 ppm	8.8			8.6
	Cond.	291			297
	Temp(C)	20.5	20.5	20.0	19.0
13	pH	8.2			8.2
	O2 ppm	8.8			8.4
	Cond.	287			292
	Temp(C)	20.5	20.5	20.0	19.0
25	pH	8.2			8.1
	O2 ppm	8.9			8.3
	Cond.	280			285
	Temp(C)	20.5	20.5	20.0	19.0
50	pH	8.2			8.1
	O2 ppm	8.9			8.3
	Cond.	263			271
	Temp(C)	20.5	20.5	20.0	19.0
100	pH	8.2			8.1
	O2 ppm	9.1			8.0
	Cond.	231			238
	Temp(C)	20.5	20.5	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890359

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1225

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890359

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.2
	O2 ppm	9.4		8.5
	Cond.	238		248
	Temp(C)	19.5	19.0	19.0
50	pH	8.4		8.3
	O2 ppm	9.0		8.4
	Cond.	269		275
	Temp(C)	19.5	19.0	19.0
25	pH	8.4		8.4
	O2 ppm	8.8		8.4
	Cond.	283		289
	Temp(C)	19.5	19.0	19.0
13	pH	8.4		8.4
	O2 ppm	8.7		8.4
	Cond.	290		295
	Temp(C)	19.5	19.0	19.0
6	pH	8.5		8.4
	O2 ppm	8.8		8.3
	Cond.	295		300
	Temp(C)	19.5	19.0	19.0
Control	pH	8.5		8.4
	O2 ppm	8.8		8.3
	Cond.	298		298
	Temp(C)	19.5	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900018

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900018

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.1
	O2 ppm	10.1		8.6
	Cond.	233		236
	Temp(C)	20.0	19.5	20.0
50	pH	8.1		8.2
	O2 ppm	9.4		8.7
	Cond.	270		274
	Temp(C)	20.0	19.5	20.0
25	pH	8.1		8.3
	O2 ppm	9.2		8.6
	Cond.	285		290
	Temp(C)	20.0	19.5	20.0
13	pH	8.2		8.3
	O2 ppm	9.0		8.6
	Cond.	295		297
	Temp(C)	20.0	19.5	20.0
6	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	297		303
	Temp(C)	20.0	19.5	20.0
Control	pH	8.2		8.3
	O2 ppm	8.9		8.7
	Cond.	301		310
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900111

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900111

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.1		8.6
	Cond.	231		231
	Temp(C)	20.5	20.0	19.5
50	pH	8.2		8.3
	O2 ppm	9.0		8.5
	Cond.	261		264
	Temp(C)	20.5	20.0	19.5
25	pH	8.3		8.4
	O2 ppm	9.0		8.5
	Cond.	277		279
	Temp(C)	20.5	20.0	19.5
13	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	283		287
	Temp(C)	20.5	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	9.0		8.4
	Cond.	289		293
	Temp(C)	20.5	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	293		305
	Temp(C)	20.5	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900028

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/06/90 at: 1429

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900028

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.7			7.8
	O2 ppm	10.0			7.8
	Cond.	214			214
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.8
	O2 ppm	9.5			7.8
	Cond.	262			267
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			7.9
	O2 ppm	9.3			8.0
	Cond.	296			300
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.9
	O2 ppm	9.2			8.0
	Cond.	315			319
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.8
	O2 ppm	9.2			7.9
	Cond.	328			334
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.9			7.9
	O2 ppm	9.2			7.9
	Cond.	329			334
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900209

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.2		8.2
	Cond.	233		237
	Temp(C)	20.5	20.0	20.5
50	pH	8.2		8.2
	O2 ppm	9.0		8.1
	Cond.	267		287
	Temp(C)	20.5	20.0	20.5
25	pH	8.3		8.2
	O2 ppm	9.0		8.2
	Cond.	285		290
	Temp(C)	20.5	20.0	20.5
13	pH	8.3		8.2
	O2 ppm	8.9		8.1
	Cond.	293		300
	Temp(C)	20.5	20.0	20.5
6	pH	8.3		8.2
	O2 ppm	8.8		8.1
	Cond.	299		302
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.2
	Cond.	302		300
	Temp(C)	20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03890203

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890203

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.8			8.4
	Cond.	301			294
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.3
	O2 ppm	8.6			8.4
	Cond.	295			297
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.3
	O2 ppm	8.6			8.4
	Cond.	291			292
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4			8.2
	O2 ppm	8.7			8.5
	Cond.	282			285
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.4			8.2
	O2 ppm	8.7			8.4
	Cond.	265			270
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.2			8.0
	O2 ppm	8.9			8.4
	Cond.	233			240
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890261

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890261

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.2			8.1
	O2 ppm	8.7			8.5
	Cond.	292			290
	Temp(C)	20.5	20.0	20.0	19.0
6	pH	8.2			8.1
	O2 ppm	8.8			8.4
	Cond.	287			288
	Temp(C)	20.5	20.0	20.0	19.0
13	pH	8.2			8.1
	O2 ppm	8.8			8.5
	Cond.	281			283
	Temp(C)	20.5	20.0	20.0	19.0
25	pH	8.1			8.1
	O2 ppm	8.9			8.5
	Cond.	275			277
	Temp(C)	20.5	20.0	20.0	19.0
50	pH	8.1			8.0
	O2 ppm	8.9			8.5
	Cond.	259			261
	Temp(C)	20.5	20.0	20.0	19.0
100	pH	8.0			7.9
	O2 ppm	9.1			8.6
	Cond.	236			240
	Temp(C)	20.5	20.0	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900016

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : OT Cooling water
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1625

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	4
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900016

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.1
	O2 ppm	10.8		8.5
	Cond.	236		238
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3		8.4
	O2 ppm	8.8		8.7
	Cond.	305		307
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900027

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/06/90 at: 1428

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	1	8
60	0	0	1	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900027

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.6			7.9
	O2 ppm	10.0			8.2
	Cond.	209			218
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.9
	O2 ppm	9.3			8.3
	Cond.	266			271
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.8			8.0
	O2 ppm	9.1			8.3
	Cond.	300			308
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.8			7.9
	O2 ppm	9.2			8.5
	Cond.	317			324
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.8			7.9
	O2 ppm	9.2			8.5
	Cond.	330			337
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.6			7.9
	O2 ppm	9.2			8.5
	Cond.	333			343
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900210

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
100	0	0	0	0
Control	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test: Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900210

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.0
	O2 ppm	9.3		8.6
	Cond.	231		231
	Temp(C)	21.0	20.0	20.0
100	pH	8.1		8.0
	O2 ppm	9.3		8.7
	Cond.	231		229
	Temp(C)	21.0	20.0	20.0
Control	pH	8.5		8.2
	O2 ppm	8.6		8.5
	Cond.	299		297
	Temp(C)	21.0	20.0	20.0
Control	pH	8.5		8.3
	O2 ppm	8.6		8.6
	Cond.	299		301
	Temp(C)	21.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890207

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1720

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	2	16
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : 16.7% mortality @ 6%

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890207

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.8			8.6
	Cond.	301			289
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.5			8.3
	O2 ppm	8.6			8.7
	Cond.	328			325
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.2
	O2 ppm	8.6			8.7
	Cond.	356			350
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4			8.3
	O2 ppm	8.6			8.8
	Cond.	402			397
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.4			8.2
	O2 ppm	8.6			8.6
	Cond.	501			496
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.3			8.1
	O2 ppm	8.7			8.5
	Cond.	702			692
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890257

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890257

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.2			8.1
	O2 ppm	8.7			8.6
	Cond.	292			288
	Temp(C)	20.5	20.5	20.0	19.0
6	pH	8.2			8.1
	O2 ppm	8.8			8.5
	Cond.	315			311
	Temp(C)	20.5	20.5	20.0	19.0
13	pH	8.2			8.0
	O2 ppm	8.8			8.6
	Cond.	346			342
	Temp(C)	20.5	20.5	20.0	19.0
25	pH	8.2			8.1
	O2 ppm	8.8			8.6
	Cond.	394			389
	Temp(C)	20.5	20.5	20.0	19.0
50	pH	8.2			8.0
	O2 ppm	8.9			8.7
	Cond.	495			493
	Temp(C)	20.5	20.5	20.0	19.0
100	pH	8.3			7.9
	O2 ppm	9.1			8.8
	Cond.	695			691
	Temp(C)	20.5	20.5	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890360

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890360

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.2		8.3
	O2 ppm	9.2		8.5
	Cond.	1795		1766
	Temp(C)	19.5	19.0	19.0
50	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	1042		1036
	Temp(C)	19.5	19.0	19.0
25	pH	8.4		8.4
	O2 ppm	8.8		8.6
	Cond.	673		673
	Temp(C)	19.5	19.0	19.0
13	pH	8.4		8.4
	O2 ppm	8.7		8.6
	Cond.	495		493
	Temp(C)	19.5	19.0	19.0
6	pH	8.4		8.4
	O2 ppm	8.8		8.6
	Cond.	389		388
	Temp(C)	19.5	19.0	19.0
Control	pH	8.5		8.4
	O2 ppm	8.8		8.5
	Cond.	298		296
	Temp(C)	19.5	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900015

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900015

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.3
	O2 ppm	9.8		8.4
	Cond.	1570		1578
	Temp(C)	20.0	19.5	20.0
50	pH	8.3		8.3
	O2 ppm	9.2		8.4
	Cond.	953		944
	Temp(C)	20.0	19.5	20.0
25	pH	8.2		8.4
	O2 ppm	8.9		8.4
	Cond.	626		618
	Temp(C)	20.0	19.5	20.0
13	pH	8.3		8.3
	O2 ppm	8.8		8.4
	Cond.	466		460
	Temp(C)	20.0	19.5	20.0
6	pH	8.2		8.3
	O2 ppm	8.7		8.2
	Cond.	382		378
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	305		307
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900112

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1425

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900112

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.2		8.3
	O2 ppm	9.1		8.6
	Cond.	1286		1291
	Temp(C)	20.5	20.0	19.5
50	pH	8.2		8.3
	O2 ppm	9.0		8.7
	Cond.	785		787
	Temp(C)	20.5	20.0	19.5
25	pH	8.3		8.4
	O2 ppm	9.0		8.7
	Cond.	549		550
	Temp(C)	20.5	20.0	19.5
13	pH	8.3		8.4
	O2 ppm	8.9		8.7
	Cond.	422		422
	Temp(C)	20.5	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.9		8.7
	Cond.	353		355
	Temp(C)	20.5	20.0	19.5
Control	pH	8.3		8.5
	O2 ppm	8.9		8.6
	Cond.	293		297
	Temp(C)	20.5	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900029

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/06/90 at: 1526

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900029

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.8			8.2
	O2 ppm	8.9			7.6
	Cond.	1152			1127
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			8.1
	O2 ppm	8.9			7.6
	Cond.	831			821
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			8.0
	O2 ppm	8.6			7.6
	Cond.	573			578
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			8.0
	O2 ppm	8.5			7.5
	Cond.	449			460
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.9
	O2 ppm	9.1			7.4
	Cond.	376			382
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.6			7.7
	O2 ppm	9.2			7.5
	Cond.	328			338
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900211

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900211

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.1
	O2 ppm	9.0		8.5
	Cond.	329		331
	Temp(C)	20.5	20.0	20.5
50	pH	8.2		8.2
	O2 ppm	8.9		8.4
	Cond.	315		316
	Temp(C)	20.5	20.0	20.5
25	pH	8.3		8.2
	O2 ppm	8.8		8.4
	Cond.	309		310
	Temp(C)	20.5	20.0	20.5
13	pH	8.3		8.2
	O2 ppm	8.8		8.4
	Cond.	306		307
	Temp(C)	20.5	20.0	20.5
6	pH	8.3		8.2
	O2 ppm	8.8		8.4
	Cond.	303		305
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.3
	Cond.	302		304
	Temp(C)	20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03890209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890209

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.8			8.6
	Cond.	301			290
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.3
	O2 ppm	8.8			8.8
	Cond.	294			301
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.2
	O2 ppm	8.7			8.7
	Cond.	294			299
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4			8.2
	O2 ppm	8.6			8.6
	Cond.	285			287
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.3			8.2
	O2 ppm	8.7			8.6
	Cond.	272			275
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.1			8.0
	O2 ppm	8.9			8.5
	Cond.	244			247
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890258

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890258

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.2			8.1
	O2 ppm	8.7			8.5
	Cond.	292			289
	Temp(C)	20.5	20.5	20.0	19.0
6	pH	8.2			8.1
	O2 ppm	8.8			8.8
	Cond.	287			293
	Temp(C)	20.5	20.5	20.0	19.0
13	pH	8.2			8.1
	O2 ppm	8.8			8.8
	Cond.	286			290
	Temp(C)	20.5	20.5	20.0	19.0
25	pH	8.2			8.1
	O2 ppm	8.8			8.7
	Cond.	278			282
	Temp(C)	20.5	20.5	20.0	19.0
50	pH	8.2			8.1
	O2 ppm	8.9			8.8
	Cond.	262			265
	Temp(C)	20.5	20.5	20.0	19.0
100	pH	8.1			8.0
	O2 ppm	9.1			8.6
	Cond.	235			239
	Temp(C)	20.5	20.5	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890356

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%.

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890356

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.2		8.2
	O2 ppm	9.4		8.6
	Cond.	255		254
	Temp(C)	19.5	19.0	19.0
50	pH	8.4		8.3
	O2 ppm	9.1		8.6
	Cond.	277		275
	Temp(C)	19.5	19.0	19.0
25	pH	8.4		8.4
	O2 ppm	8.9		8.6
	Cond.	289		286
	Temp(C)	19.5	19.0	19.0
13	pH	8.4		8.4
	O2 ppm	8.8		8.5
	Cond.	294		291
	Temp(C)	19.5	19.0	19.0
6	pH	8.5		8.4
	O2 ppm	8.8		8.4
	Cond.	397		294
	Temp(C)	19.5	19.0	19.0
Control	pH	8.5		8.4
	O2 ppm	8.8		8.3
	Cond.	298		296
	Temp(C)	19.5	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900013

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900013

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.1
	O2 ppm	10.2		8.3
	Cond.	249		252
	Temp(C)	20.0	19.5	20.0
50	pH	8.2		8.3
	O2 ppm	9.4		8.4
	Cond.	278		283
	Temp(C)	20.0	19.5	20.0
25	pH	8.2		8.3
	O2 ppm	9.1		8.3
	Cond.	291		296
	Temp(C)	20.0	19.5	20.0
13	pH	8.3		8.3
	O2 ppm	8.9		8.2
	Cond.	299		302
	Temp(C)	20.0	19.5	20.0
6	pH	8.2		8.3
	O2 ppm	8.9		8.0
	Cond.	303		305
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3		8.4
	O2 ppm	8.8		8.5
	Cond.	305		307
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900113

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900113

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.1		8.6
	Cond.	238		240
	Temp(C)	20.5	20.0	19.5
50	pH	8.2		8.3
	O2 ppm	9.0		8.6
	Cond.	264		269
	Temp(C)	20.5	20.0	19.5
25	pH	8.2		8.4
	O2 ppm	8.9		8.6
	Cond.	278		282
	Temp(C)	20.5	20.0	19.5
13	pH	8.2		8.4
	O2 ppm	8.9		8.6
	Cond.	286		288
	Temp(C)	20.5	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.9		8.5
	Cond.	290		294
	Temp(C)	20.5	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.9		8.5
	Cond.	293		294
	Temp(C)	20.5	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900031

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1356

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900031

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.6			7.9
	O2 ppm	10.0			8.4
	Cond.	218			224
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.9
	O2 ppm	9.2			8.4
	Cond.	270			272
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			7.9
	O2 ppm	8.9			8.4
	Cond.	302			309
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.9
	O2 ppm	9.2			8.4
	Cond.	321			330
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.9
	O2 ppm	9.1			8.5
	Cond.	332			339
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.8			7.5
	O2 ppm	9.0			8.5
	Cond.	333			342
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900212

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1115

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900212

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.2		8.3
	Cond.	240		246
	Temp(C)	20.5	20.0	20.5
50	pH	8.2		8.2
	O2 ppm	9.0		8.2
	Cond.	272		276
	Temp(C)	20.5	20.0	20.5
25	pH	8.3		8.2
	O2 ppm	8.8		8.0
	Cond.	286		291
	Temp(C)	20.5	20.0	20.5
13	pH	8.3		8.2
	O2 ppm	8.8		8.1
	Cond.	294		296
	Temp(C)	20.5	20.0	20.5
6	pH	8.3		8.2
	O2 ppm	8.8		8.2
	Cond.	298		301
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.4
	Cond.	302		305
	Temp(C)	20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03890205

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL* MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890205

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.8			8.7
	Cond.	301			297
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.4			8.2
	O2 ppm	8.6			8.8
	Cond.	293			300
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.3
	O2 ppm	8.6			8.7
	Cond.	295			296
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4			8.3
	O2 ppm	8.6			8.7
	Cond.	288			289
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.3			8.2
	O2 ppm	8.6			8.6
	Cond.	273			276
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.2			8.1
	O2 ppm	8.8			8.3
	Cond.	245			246
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890259

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890259

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.2			8.1
	O2 ppm	8.7			8.8
	Cond.	292			289
	Temp(C)	20.5	20.5	20.0	19.0
6	pH	8.2			8.0
	O2 ppm	8.8			8.9
	Cond.	288			291
	Temp(C)	20.5	20.5	20.0	19.0
13	pH	8.2			8.1
	O2 ppm	8.8			8.7
	Cond.	286			287
	Temp(C)	20.5	20.5	20.0	19.0
25	pH	8.2			8.1
	O2 ppm	8.8			8.7
	Cond.	278			280
	Temp(C)	20.5	20.5	20.0	19.0
50	pH	8.2			8.1
	O2 ppm	8.9			8.7
	Cond.	262			265
	Temp(C)	20.5	20.5	20.0	19.0
100	pH	8.2			8.1
	O2 ppm	9.2			8.6
	Cond.	234			236
	Temp(C)	20.5	20.5	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890358

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890358

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.2
	O2 ppm	9.4		8.5
	Cond.	247		247
	Temp(C)	19.5	19.0	19.0
50	pH	8.4		8.4
	O2 ppm	8.9		8.5
	Cond.	273		271
	Temp(C)	19.5	19.0	19.0
25	pH	8.4		8.4
	O2 ppm	8.6		8.5
	Cond.	286		284
	Temp(C)	19.5	19.0	19.0
13	pH	8.5		8.4
	O2 ppm	8.5		8.6
	Cond.	292		290
	Temp(C)	19.5	19.0	19.0
6	pH	8.4		8.4
	O2 ppm	8.4		8.6
	Cond.	295		295
	Temp(C)	19.5	19.0	19.0
Control	pH	8.5		8.4
	O2 ppm	8.8		8.5
	Cond.	298		295
	Temp(C)	19.5	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900014

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900014

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.1
	O2 ppm	10.3		8.6
	Cond.	241		241
	Temp(C)	20.0	19.5	20.0
50	pH	8.2		8.3
	O2 ppm	9.5		8.6
	Cond.	273		273
	Temp(C)	20.0	19.5	20.0
25	pH	8.2		8.3
	O2 ppm	9.2		8.6
	Cond.	291		288
	Temp(C)	20.0	19.5	20.0
13	pH	8.2		8.3
	O2 ppm	8.9		8.4
	Cond.	298		296
	Temp(C)	20.0	19.5	20.0
6	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	302		301
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	305		307
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900114

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900114

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.2		8.4
	Cond.	229		234
	Temp(C)	20.5	20.0	19.5
50	pH	8.2		8.3
	O2 ppm	9.1		8.4
	Cond.	260		265
	Temp(C)	20.5	20.0	19.5
25	pH	8.2		8.3
	O2 ppm	9.0		8.5
	Cond.	278		280
	Temp(C)	20.5	20.0	19.5
13	pH	8.2		8.4
	O2 ppm	8.9		8.5
	Cond.	283		288
	Temp(C)	20.5	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.9		8.5
	Cond.	290		292
	Temp(C)	20.5	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.9		8.5
	Cond.	293		290
	Temp(C)	20.5	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900030

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1343

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900030

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.7			7.8
	O2 ppm	10.4			8.3
	Cond.	212			217
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.9
	O2 ppm	9.6			8.2
	Cond.	264			270
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			7.9
	O2 ppm	9.3			8.2
	Cond.	300			305
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.8			7.9
	O2 ppm	9.2			8.3
	Cond.	318			322
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.8			7.9
	O2 ppm	9.1			8.3
	Cond.	327			337
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.8			7.6
	O2 ppm	9.1			8.4
	Cond.	328			341
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900213

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1125

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900213

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.3		8.6
	Cond.	230		237
	Temp(C)	20.5	20.0	20.5
50	pH	8.0		8.2
	O2 ppm	8.9		8.5
	Cond.	267		271
	Temp(C)	20.5	20.0	20.5
25	pH	8.2		8.2
	O2 ppm	8.8		8.5
	Cond.	286		291
	Temp(C)	20.5	20.0	20.5
13	pH	8.3		8.2
	O2 ppm	8.8		8.5
	Cond.	290		296
	Temp(C)	20.5	20.0	20.5
6	pH	8.3		8.2
	O2 ppm	8.8		8.5
	Cond.	295		299
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.5
	Cond.	302		304
	Temp(C)	20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03890202

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal.

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890202

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.8			8.9
	Cond.	301			297
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.5			8.3
	O2 ppm	8.7			9.0
	Cond.	494			501
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.5			8.3
	O2 ppm	8.7			8.9
	Cond.	737			745
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.5			8.3
	O2 ppm	8.7			8.8
	Cond.	1107			1105
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.5			8.3
	O2 ppm	8.7			8.6
	Cond.	1907			1923
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.6			8.3
	O2 ppm	8.8			8.4
	Cond.	3440			3500
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890260

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	47:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	1	1	8
50	0	0	1	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890260

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	47:00
Control	pH	8.2			8.1
	O2 ppm	8.8			8.9
	Cond.	292			289
	Temp(C)	20.5	20.5	20.0	19.0
6	pH	8.2			8.1
	O2 ppm	8.8			9.0
	Cond.	484			491
	Temp(C)	20.5	20.5	20.0	19.0
13	pH	8.2			8.2
	O2 ppm	8.8			8.9
	Cond.	717			723
	Temp(C)	20.5	20.5	20.0	19.0
25	pH	8.2			8.3
	O2 ppm	8.8			8.8
	Cond.	1114			1115
	Temp(C)	20.5	20.5	20.0	19.0
50	pH	8.4			8.3
	O2 ppm	8.9			8.8
	Cond.	1879			1892
	Temp(C)	20.5	20.5	20.0	19.0
100	pH	8.6			8.3
	O2 ppm	9.1			8.7
	Cond.	3440			3470
	Temp(C)	20.5	20.5	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890361

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890361

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.2
	O2 ppm	9.7		8.6
	Cond.	3640		3600
	Temp(C)	19.5	19.0	19.0
50	pH	8.3		8.3
	O2 ppm	9.2		8.5
	Cond.	1980		1970
	Temp(C)	19.5	19.0	19.0
25	pH	8.4		8.4
	O2 ppm	8.9		8.5
	Cond.	1151		1146
	Temp(C)	19.5	19.0	19.0
13	pH	8.4		8.4
	O2 ppm	8.6		8.5
	Cond.	726		739
	Temp(C)	19.5	19.0	19.0
6	pH	8.4		8.4
	O2 ppm	8.6		8.4
	Cond.	506		507
	Temp(C)	19.5	19.0	19.0
Control	pH	8.5		8.4
	O2 ppm	8.8		8.3
	Cond.	298		298
	Temp(C)	19.5	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900012

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	1	2	16
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900012

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.1
	O2 ppm	10.2		8.6
	Cond.	3560		3530
	Temp(C)	20.0	19.5	20.0
50	pH	8.2		8.2
	O2 ppm	9.5		8.6
	Cond.	1965		1950
	Temp(C)	20.0	19.5	20.0
25	pH	8.2		8.3
	O2 ppm	9.1		8.7
	Cond.	1156		1148
	Temp(C)	20.0	19.5	20.0
13	pH	8.2		8.3
	O2 ppm	9.0		8.6
	Cond.	1142		1142
	Temp(C)	20.0	19.5	20.0
6	pH	8.2		8.4
	O2 ppm	8.8		8.6
	Cond.	494		495
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3		8.4
	O2 ppm	8.8		8.2
	Cond.	305		307
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900115

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900115

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.7		8.3
	O2 ppm	9.1		8.4
	Cond.	2960		2980
	Temp(C)	20.0	20.0	19.5
50	pH	8.4		8.3
	O2 ppm	8.9		8.5
	Cond.	1658		1662
	Temp(C)	20.0	20.0	19.5
25	pH	8.3		8.4
	O2 ppm	9.0		8.4
	Cond.	991		995
	Temp(C)	20.0	20.0	19.5
13	pH	8.3		8.3
	O2 ppm	8.9		8.4
	Cond.	654		658
	Temp(C)	20.0	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	469		467
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	293		292
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900032

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1438

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/high conductivity

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900032

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.8			8.0
	O2 ppm	10.0			8.4
	Cond.	2310			2300
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.9			8.0
	O2 ppm	9.5			8.4
	Cond.	1520			1540
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			8.0
	O2 ppm	9.2			8.4
	Cond.	930			912
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.8			7.9
	O2 ppm	8.9			8.4
	Cond.	622			639
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.8			7.9
	O2 ppm	9.1			8.5
	Cond.	427			437
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.7			7.6
	O2 ppm	8.9			8.4
	Cond.	325			329
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900214

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900214

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.2		8.6
	Cond.	1612		1618
	Temp(C)	20.5	20.0	20.5
50	pH	8.1		8.2
	O2 ppm	8.9		8.6
	Cond.	970		976
	Temp(C)	20.5	20.0	20.5
25	pH	8.1		8.2
	O2 ppm	8.8		8.7
	Cond.	639		641
	Temp(C)	20.5	20.0	20.5
13	pH	8.2		8.2
	O2 ppm	8.8		8.7
	Cond.	479		473
	Temp(C)	20.5	20.0	20.5
6	pH	8.3		8.2
	O2 ppm	8.7		8.7
	Cond.	383		389
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.5
	Cond.	302		305
	Temp(C)	20.5	20.0	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890204

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	1	8
13	0	0	0	2	16
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : 16.7% mortality @ 13%

SLOPE of Mortality Curve :
LC50 Calculated By : INTUITIVE

TOXICITY TEST PARAMETERS

Sample Number: 03890204

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.8			9.8
	Cond.	301			301
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.3			8.3
	O2 ppm	8.7			9.7
	Cond.	293			302
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4			8.3
	O2 ppm	8.7			9.6
	Cond.	293			299
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.4			8.3
	O2 ppm	8.7			9.3
	Cond.	287			292
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.3			8.2
	O2 ppm	8.7			9.1
	Cond.	276			281
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.1			8.0
	O2 ppm	8.8			8.8
	Cond.	252			257
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890262

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1645

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	2	2	16

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890262

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.2			8.1
	O2 ppm	8.7			8.6
	Cond.	292			292
	Temp(C)	20.5	20.5	20.0	20.0
6	pH	8.2			8.1
	O2 ppm	8.7			8.6
	Cond.	292			291
	Temp(C)	20.5	20.5	20.0	20.0
13	pH	8.2			8.1
	O2 ppm	8.9			8.7
	Cond.	291			290
	Temp(C)	20.5	20.5	20.0	20.0
25	pH	8.2			8.1
	O2 ppm	8.9			8.8
	Cond.	287			287
	Temp(C)	20.5	20.5	20.0	20.0
50	pH	8.2			8.1
	O2 ppm	8.9			8.8
	Cond.	275			278
	Temp(C)	20.5	20.5	20.0	20.0
100	pH	8.3			8.0
	O2 ppm	9.1			9.0
	Cond.	256			261
	Temp(C)	20.5	20.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900017

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1705

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900017

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.1
	O2 ppm	10.6		8.5
	Cond.	269		277
	Temp(C)	20.0	19.5	20.0
Control	pH	8.2		8.4
	O2 ppm	8.9		8.6
	Cond.	301		312
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900035

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/13/90 at: 1249

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	1	8
Control	0	0	0	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900035

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.6			7.8
	O2 ppm	10.2			8.2
	Cond.	228			229
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.7			7.9
	O2 ppm	9.3			8.3
	Cond.	260			262
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.7			7.9
	O2 ppm	9.4			8.2
	Cond.	283			285
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.8			7.9
	O2 ppm	9.3			8.3
	Cond.	294			297
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.8			7.9
	O2 ppm	9.1			8.2
	Cond.	302			304
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.8			7.9
	O2 ppm	8.9			8.3
	Cond.	298			305
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900215

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
100	0	0	0	0
Control	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900215

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.0
	O2 ppm	9.4		8.6
	Cond.	949		932
	Temp(C)	21.0	20.0	20.0
100	pH	8.1		7.9
	O2 ppm	9.4		8.6
	Cond.	949		950
	Temp(C)	21.0	20.0	20.0
Control	pH	8.5		8.3
	O2 ppm	8.6		8.7
	Cond.	299		297
	Temp(C)	21.0	20.0	20.0
Control	pH	8.5		8.3
	O2 ppm	8.6		8.6
	Cond.	299		294
	Temp(C)	21.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890274

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Weatherstone
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/20/89 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890274

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.3
	O2 ppm	7.9			10.4
	Cond.	300			298
	Temp(C)	20.0	20.0	20.0	19.5
6	pH	8.4			8.4
	O2 ppm	9.3			10.1
	Cond.	770			748
	Temp(C)	20.0	20.0	20.0	19.5
13	pH	8.2			8.3
	O2 ppm	9.1			10.2
	Cond.	1303			1269
	Temp(C)	20.0	20.0	20.0	19.5
25	pH	8.1			8.3
	O2 ppm	9.1			10.0
	Cond.	2120			2070
	Temp(C)	20.0	20.0	20.0	19.5
50	pH	7.9			8.2
	O2 ppm	8.7			9.6
	Cond.	3910			3780
	Temp(C)	20.0	20.0	20.0	19.5
100	pH	7.8			8.0
	O2 ppm	8.5			9.0
	Cond.	7300			7120
	Temp(C)	20.0	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890357

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	3	25
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03890357

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.3		7.6
	O2 ppm	1.6		2.5
	Cond.	1198		1189
	Temp(C)	19.5	19.0	19.0
50	pH	7.5		7.7
	O2 ppm	3.2		2.8
	Cond.	6430		6350
	Temp(C)	19.5	19.0	19.0
25	pH	7.8		7.9
	O2 ppm	5.3		5.7
	Cond.	3540		3490
	Temp(C)	19.5	19.0	19.0
13	pH	8.1		8.1
	O2 ppm	7.3		7.3
	Cond.	1999		1949
	Temp(C)	19.5	19.0	19.0
6	pH	8.3		8.3
	O2 ppm	8.4		8.2
	Cond.	1099		1063
	Temp(C)	19.5	19.0	19.0
Control	pH	8.5		8.4
	O2 ppm	8.8		8.7
	Cond.	298		292
	Temp(C)	19.5	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900011

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900011

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.7		8.2
	O2 ppm	8.6		3.7
	Cond.	4080		4070
	Temp(C)	20.0	19.5	20.0
50	pH	8.6		8.2
	O2 ppm	7.6		6.3
	Cond.	2260		2250
	Temp(C)	20.0	19.5	20.0
25	pH	8.5		8.3
	O2 ppm	8.3		7.5
	Cond.	1306		1305
	Temp(C)	20.0	19.5	20.0
13	pH	8.4		8.3
	O2 ppm	8.6		7.9
	Cond.	837		835
	Temp(C)	20.0	19.5	20.0
6	pH	8.3		8.3
	O2 ppm	8.7		8.2
	Cond.	550		555
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3		8.3
	O2 ppm	8.8		8.2
	Cond.	305		307
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900116

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1505

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900116

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.0
	O2 ppm	8.0		6.0
	Cond.	3460		3570
	Temp(C)	20.5	20.0	19.5
50	pH	8.3		8.2
	O2 ppm	8.1		7.1
	Cond.	1937		1964
	Temp(C)	20.5	20.0	19.5
25	pH	8.3		8.3
	O2 ppm	8.5		7.8
	Cond.	1118		1133
	Temp(C)	20.5	20.0	19.5
13	pH	8.3		8.3
	O2 ppm	8.6		8.0
	Cond.	734		739
	Temp(C)	20.5	20.0	19.5
6	pH	8.3		8.3
	O2 ppm	8.8		8.3
	Cond.	496		498
	Temp(C)	20.5	20.0	19.5
Control	pH	8.3		8.5
	O2 ppm	8.9		8.4
	Cond.	293		304
	Temp(C)	20.5	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900034

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/13/90 at: 1227

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/high conductivity, low D. O.

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900034

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.7			7.9
	O2 ppm	3.8			6.9
	Cond.	2830			2730
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.7			7.9
	O2 ppm	6.8			7.2
	Cond.	1840			1800
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.8			7.9
	O2 ppm	7.7			7.6
	Cond.	1088			1066
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.7			7.8
	O2 ppm	8.1			7.8
	Cond.	694			689
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.6			7.7
	O2 ppm	8.3			8.1
	Cond.	433			425
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.6			7.8
	O2 ppm	8.8			8.2
	Cond.	306			292
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900216

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900216

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		7.9
	O2 ppm	7.7		7.9
	Cond.	3310		3290
	Temp(C)	20.5	20.0	20.5
50	pH	7.9		8.0
	O2 ppm	8.3		8.4
	Cond.	1812		1814
	Temp(C)	20.5	20.0	20.5
25	pH	8.1		8.2
	O2 ppm	8.3		8.5
	Cond.	1077		1082
	Temp(C)	20.5	20.0	20.5
13	pH	8.2		8.2
	O2 ppm	8.5		8.5
	Cond.	701		716
	Temp(C)	20.5	20.0	20.5
6	pH	8.2		8.2
	O2 ppm	8.7		8.6
	Cond.	498		512
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.6
	Cond.	302		306
	Temp(C)	20.5	20.0	20.5

COMPANY: Du Pont Canada Inc., Corunna
(80309)
(now with St. Clair River Site)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for thirteen trout bioassays, conducted on intake water and combined effluent samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. All thirteen samples were determined to have been non-acutely lethal to test fish.

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intake water

05890088 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890111 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890127 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900008 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900035 sampled: 02/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: 10% Control Mortalities, Valid by Protocol

05900056 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890089 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890110 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890126 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Du Pont Canada Inc. (continued)

05900009 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900036 sampled: 02/14/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% Control Mortalities - Valid by Protocol

01900016 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900055 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

01900017 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

MISA Trout

TOXICITY TEST REPORT Sample: 05890088

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/19/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	50:00	76:00	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890088

TEST CONC. %		ELAPSED TIME 00:00	23:10	50:00	76:00	97:00
100	pH	7.8	7.5	7.5	7.5	7.6
	O2 ppm	10.3	8.3	9.2	9.2	9.2
	Cond.	220				220
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.5	7.5	7.5	7.5
	O2 ppm	10.3	8.7	9.2	9.2	9.1
	Cond.	220				215
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.3	7.3
	O2 ppm	8.3	8.5	9.0	9.2	8.8
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4
	O2 ppm	8.0	7.6	8.8	8.6	8.6
	Cond.	175				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890111

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:10	49:00	72:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890111

TEST CONC. %		ELAPSED TIME 00:00	22:10	49:00	72:10	96:00
100	pH	7.8	7.9	7.8	7.8	7.8
	O2 ppm	10.9	10.3	9.9	9.9	10.2
	Cond.	240				230
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.8	7.8	7.8	7.8
	O2 ppm	10.6	10.2	10.2	10.0	10.6
	Cond.	238				230
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9
	Cond.	165				165
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890127

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	18:00	41:00	65:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890127

TEST CONC. %		ELAPSED TIME 00:00	18:00	41:00	65:00	96:00
100	pH	7.7	7.6	7.7	7.8	8.0
	O2 ppm	11.2	9.5	9.4	9.6	9.0
	Cond.	232				236
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.6	7.8	7.8	8.0
	O2 ppm	11.2	9.6	9.3	9.2	9.2
	Cond.	235				238
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.8	7.9	8.0
	O2 ppm	11.4	9.8	9.9	9.8	9.6
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.8	7.9	8.0
	O2 ppm	11.5	9.8	10.0	9.6	9.6
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900008

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1645

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:25	41:55	72:25	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	1	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900008

TEST CONC. %		ELAPSED TIME 00:00	19:25	41:55	72:25	96:55
100	pH	7.8	7.6	7.6	7.8	7.8
	O2 ppm	11.6	8.8	8.3	8.4	8.8
	Cond.	235				250
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.5	7.6	7.7	7.8
	O2 ppm	11.7	8.6	8.0	8.6	8.4
	Cond.	235				250
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.6	7.6	7.8	7.7
	O2 ppm	11.2	9.2	8.4	9.3	8.9
	Cond.	170				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.6	7.7	7.7
	O2 ppm	11.0	9.0	8.2	8.6	8.7
	Cond.	175				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900035

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/14/90
Received : 02/14/90
Tested : 02/15/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	47:10	71:10	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	1	10
Control	0	0	0	0	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : 10% Control Mortalities, Valid by Protocol

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900035

TEST CONC. %		ELAPSED TIME 00:00	23:10	47:10	71:10	97:00
100	pH	7.7				7.7
	O2 ppm	11.8				9.0
	Cond.	210				228
	Temp(C)	15.0				15.0
100	pH	7.7				7.7
	O2 ppm	11.6				9.2
	Cond.	212				228
	Temp(C)	15.0				15.0
Control	pH	7.7				7.4
	O2 ppm	9.6				9.5
	Cond.	170				170
	Temp(C)	15.0				15.0
Control	pH	7.7				7.4
	O2 ppm	9.8				9.4
	Cond.	172				175
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900056

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/15/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:25	48:10	71:10	97:10	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900056

TEST CONC. %		ELAPSED TIME 00:00	25:25 48:10 71:10 97:10
100	pH	8.0	7.9
	O2 ppm	11.2	9.4
	Cond.	220	228
	Temp(C)	15.0	15.0
100	pH	8.0	8.0
	O2 ppm	11.2	9.0
	Cond.	220	228
	Temp(C)	15.0	15.0
Control	pH	7.5	7.7
	O2 ppm	10.8	9.1
	Cond.	168	180
	Temp(C)	15.0	15.0
Control	pH	7.6	7.7
	O2 ppm	10.7	9.1
	Cond.	168	180
	Temp(C)	15.0	15.0

TOXICITY TEST REPORT Sample: 05890089

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/19/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	50:00	73:00	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	1	10
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890089

TEST CONC. %		ELAPSED TIME 00:00	23:10	50:00	73:00	97:00
100	pH	7.7	7.4	7.5	7.4	7.5
	O2 ppm	8.9	8.2	8.6	8.8	8.3
	Cond.	250				239
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.3	7.4	7.5	7.4	7.5
	O2 ppm	8.5	8.2	8.2	9.0	9.1
	Cond.	230				220
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.2	7.4	7.4	7.4	7.5
	O2 ppm	8.3	8.2	8.6	8.9	9.0
	Cond.	210				105
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.4	7.4	7.4	7.5
	O2 ppm	8.1	8.8	8.6	8.8	9.0
	Cond.	195				191
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.3	7.4	7.4	7.4
	O2 ppm	8.0	8.0	8.1	8.7	8.9
	Cond.	182				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.0	7.3	7.3	7.3	7.4
	O2 ppm	8.0	7.7	8.6	8.6	8.7
	Cond.	178				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.3
	O2 ppm	8.3	8.5	9.0	9.2	8.8
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4
	O2 ppm	8.0	7.6	8.8	9.0	8.6
	Cond.	175				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890110

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:10	49:00	73:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890110

TEST CONC. %		ELAPSED TIME 00:00	22:10	49:00	73:10	96:00
100	pH	7.3	7.8	7.8	7.8	7.8
	O2 ppm	9.2	10.2	9.8	10.0	9.9
	Cond.	238				230
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.3	7.6	7.8	7.8	7.7
	O2 ppm	9.4	9.9	10.0	10.2	9.6
	Cond.	215				211
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.6	7.8	7.8	7.7
	O2 ppm	9.4	10.2	10.0	10.4	9.7
	Cond.	205				200
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.5	7.6	7.7	7.8	7.7
	O2 ppm	9.4	10.0	9.4	10.0	9.7
	Cond.	180				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	7.7	7.7	7.8	7.7
	O2 ppm	9.6	10.1	9.8	10.3	9.9
	Cond.	171				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.8	7.7	7.7	7.8	7.7
	O2 ppm	9.4	10.0	9.9	10.2	10.0
	Cond.	165				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9
	Cond.	165				165
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890126

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	18:00	41:00	65:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890126

TEST CONC. %		ELAPSED TIME 00:00	18:00	41:00	65:00	96:00
100	pH	7.7	7.6	7.9	7.8	8.1
	O2 ppm	9.7	9.2	8.6	9.0	9.4
	Cond.	240				248
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.7	7.6	7.9	7.8	8.0
	O2 ppm	10.0	9.2	9.0	9.2	9.2
	Cond.	222				228
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.7	7.6	7.8	7.8	8.0
	O2 ppm	10.6	9.4	8.8	9.4	8.7
	Cond.	209				212
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.7	7.6	7.8	7.8	8.1
	O2 ppm	11.2	9.4	9.1	9.4	9.0
	Cond.	189				194
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.5	7.9	7.8	8.2
	O2 ppm	11.2	9.4	9.0	9.6	9.2
	Cond.	167				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.7	7.7	7.8	7.9	8.2
	O2 ppm	11.0	9.8	9.4	9.8	9.6
	Cond.	165				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.8	7.9	8.0
	O2 ppm	11.4	9.8	9.9	9.8	9.6
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.8	7.9	8.0
	O2 ppm	11.5	9.8	10.0	9.6	9.6
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900009

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1645

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:25	41:55	72:25	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	1	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900009

TEST CONC. %		ELAPSED TIME 00:00	19:25	41:55	72:25	96:55
100	pH	7.8	7.5	7.6	7.7	7.8
	O2 ppm	9.8	8.2	7.3	8.0	8.3
	Cond.	231				245
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.5	7.6	7.8	7.8
	O2 ppm	9.9	8.4	7.9	8.4	8.6
	Cond.	238				245
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.6	7.6	7.8	7.7
	O2 ppm	11.2	9.2	8.4	9.3	8.9
	Cond.	170				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.6	7.7	7.7
	O2 ppm	11.0	9.0	8.2	8.6	8.7
	Cond.	175				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900036

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/14/90
Received : 02/14/90
Tested : 02/15/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	47:10	71:10	97:00	TOTAL MORTALITY %
100	0	0	1	1	1	10
100	0	0	0	0	0	0
Control	0	0	0	0	1	10
Control	0	0	0	0	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : 10% Control Mortalities - Valid by Protocol

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900036

TEST CONC. %		ELAPSED TIME 00:00	23:10	47:10	71:10	97:00
100	pH	7.7				7.6
	O2 ppm	9.3				8.9
	Cond.	220				230
	Temp(C)	15.0				15.0
100	pH	7.7				7.6
	O2 ppm	9.2				8.8
	Cond.	220				232
	Temp(C)	15.0				15.0
Control	pH	7.7				7.4
	O2 ppm	9.6				9.5
	Cond.	170				172
	Temp(C)	15.0				15.0
Control	pH	7.7				7.4
	O2 ppm	9.8				9.4
	Cond.	172				175
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900016

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : Don Hamilton
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/22/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:00	49:00	74:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900016

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:00	49:00	74:00	96:0
100	pH	7.1					7.4	7.5	7.6	7.
	O2 ppm	10.0					9.3	10.9	10.5	10.
	Cond.	260					215	270	270	26
	Temp(C)	15.0					15.0	15.0	15.0	15.
65	pH						7.6	7.4	7.5	7.
	O2 ppm						10.4	10.8	10.4	10.
	Cond.						270	275	270	27
	Temp(C)						15.0	15.0	15.0	15.
40	pH						7.5	7.4	7.5	7.
	O2 ppm						10.1	10.5	10.3	10.
	Cond.						270	275	275	27
	Temp(C)						15.0	15.0	15.0	15.
30	pH						7.8	7.3	7.5	7.
	O2 ppm						10.0	10.5	10.0	10.
	Cond.						270	275	275	27
	Temp(C)						15.0	15.0	15.0	15.
20	pH						7.6	7.4	7.6	7.
	O2 ppm						10.5	10.8	10.5	10.
	Cond.						270	275	275	27
	Temp(C)						15.0	15.0	15.0	15.
10	pH						7.6	7.4	7.4	7.
	O2 ppm						10.5	10.8	10.5	10.
	Cond.						270	275	275	27
	Temp(C)						15.0	15.0	15.0	15.
Control	pH						7.0	7.1	7.3	7.
	O2 ppm						10.2	11.0	10.5	10.
	Cond.						255	265	275	27
	Temp(C)						15.0	15.0	15.0	15.

MISA Trout

TOXICITY TEST REPORT Sample: 05900055

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/15/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:25	48:10	71:10	97:10	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900055

TEST CONC. %		ELAPSED TIME 00:00	25:25	48:10	71:10	97:10
100	pH	7.9				8.0
	O2 ppm	9.2				9.6
	Cond.	240				240
	Temp(C)	15.0				15.0
100	pH	8.0				8.0
	O2 ppm	9.2				9.0
	Cond.	245				242
	Temp(C)	15.0				15.0
Control	pH	7.5				7.7
	O2 ppm	10.8				9.1
	Cond.	168				180
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.7				9.0
	Cond.	168				180
	Temp(C)	15.0				15.0

TOXICITY TEST REPORT Sample: 01900017

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : MOE
Sampling Method : Grab
Sampled By : Don Hamilton
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/22/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:30	49:30	74:00	92:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900017

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	20:30	49:30	74:00	92:0
100	pH	7.1					7.7	7.5	7.6	7.
	O2 ppm	9.6					10.4	9.8	10.0	10.
	Cond.	230					240	245	245	24
	Temp(C)	15.0					15.0	15.0	15.0	15.
65	pH						7.7	7.5	7.6	7.
	O2 ppm						10.6	9.9	10.0	10.
	Cond.						250	255	254	25
	Temp(C)						15.0	15.0	15.0	15.
40	pH						7.6	7.5	7.6	7.
	O2 ppm						10.2	9.8	10.0	10.
	Cond.						250	265	262	26
	Temp(C)						15.0	15.0	15.0	15.
30	pH						7.7	7.5	7.6	7.
	O2 ppm						10.7	10.0	10.0	10.
	Cond.						260	265	265	26
	Temp(C)						15.0	15.0	15.0	15.
20	pH						7.7	7.5	7.6	7.
	O2 ppm						10.7	10.0	10.2	10.
	Cond.						270	270	265	26
	Temp(C)						15.0	15.0	15.0	15.
10	pH						7.7	7.4	7.5	7.
	O2 ppm						10.3	9.8	10.0	10.
	Cond.						270	275	275	27
	Temp(C)						15.0	15.0	15.0	15.
Control	pH						7.5	7.3	7.2	7.
	O2 ppm						10.3	9.9	10.0	10.
	Cond.						265	265	275	27
	Temp(C)						15.0	15.0	15.0	15.

COMPANY: Du Pont Canada Inc., Corunna (80309) (now with St. Clair River Site)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for twelve Daphnia magna acute lethality toxicity test conducted on samples of intake water and combined effluent collected between October 1989 and March 1990 were submitted by Du Pont Canada Inc. of Corunna. Samples of intake water and effluent had little or no acute toxic affects on Daphnia.

Five of six samples of intake water were not acutely lethal to Daphnia. One sample had an LC50 > 100%.

Fifty percent of the effluent samples were nonlethal, and the remaining three samples had only one neonate die during the test.

Tests were conducted in the Ministry laboratory on samples collected in February from the effluent stream and from the pellet skimming pond. The combined effluent sample had an LC50 > 100%. The sample from the pellet skimming pond generated an unusual toxicity response in which most of the mortalities occurred in the middle (diluted) concentrations of effluent.

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intake water

05890088 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890111 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890127 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900056 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890089 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890110 sampled: 11/15/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890126 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

02900016 sampled: 02/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900055 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

02900017 sampled: 02/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/bell-shaped lethality curve

rain gauge

TOXICITY TEST REPORT Sample: 05890088

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/18/89 at: 1345

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	1	8
50	0	2	16
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890088

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	8.0
	O2 ppm	9.6	8.4
	Cond.	240	270
	Temp(C)	20.0	20.0
50	pH	8.0	8.1
	O2 ppm	9.4	8.4
	Cond.	365	389
	Temp(C)	20.0	20.0
26	pH	8.1	8.2
	O2 ppm	9.4	8.5
	Cond.	430	440
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.3	8.5
	Cond.	468	459
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	9.3	8.8
	Cond.	485	450
	Temp(C)	20.0	20.0
Control	pH	8.0	7.9
	O2 ppm	9.2	8.8
	Cond.	492	475
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890111

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1225

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890111

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	7.9
	O2 ppm	10.2	9.5
	Cond.	254	274
	Temp(C)	20.0	20.0
50	pH	8.0	8.1
	O2 ppm	9.6	9.4
	Cond.	392	381
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.3	9.6
	Cond.	450	430
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	9.2	9.4
	Cond.	478	460
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.2	9.4
	Cond.	490	470
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	9.6	9.5
	Cond.	492	480
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890127

TEST CONDITIONS

Company	: Du Pont Canada Inc. Corunna, ONT (80309)
Region	: Southwest
Industry	: Organic Chemical
Control point	: intake water, (100)
Laboratory	: Pollutech
Sampling Method	: Grab
Sampled By	: P.Tymstra
Date Collected	: 12/13/89
Received	: 12/13/89
Tested	: 12/13/89 at: 1415
Type of Bioassay	: STATIC (Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)
Test Animal	: D. magna
Weight(gm)	:
Length(mm)	:

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:15	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890127

TEST CONC. %		ELAPSED TIME 00:00	48:15
100	pH	7.8	8.0
	O2 ppm	9.4	9.4
	Cond.	282	282
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.3	9.3
	Cond.	400	400
	Temp(C)	20.0	20.0
26	pH	8.3	8.3
	O2 ppm	9.4	9.4
	Cond.	449	449
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	9.2	9.2
	Cond.	450	472
	Temp(C)	20.0	20.0
6	pH	8.1	8.3
	O2 ppm	9.0	9.1
	Cond.	460	488
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	9.4	9.3
	Cond.	488	495
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900056

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/14/90 at: 1220

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900056

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.9
	O2 ppm	9.3	9.3
	Cond.	280	280
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	9.1	9.1
	Cond.	405	405
	Temp(C)	20.0	20.0
26	pH	8.2	8.2
	O2 ppm	9.1	9.1
	Cond.	460	460
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	9.3	9.3
	Cond.	488	488
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.2	8.2
	Cond.	500	500
	Temp(C)	20.0	20.0
Control	pH	8.3	8.3
	O2 ppm	9.3	9.3
	Cond.	505	505
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890089

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/18/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:00	TOTAL MORTALITY %
100	0	0	0
50	0	1	8
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890089

TEST CONC. %		ELAPSED TIME 00:00	49:00
100	pH	7.8	7.9
	O2 ppm	8.6	8.2
	Cond.	272	275
	Temp(C)	20.0	20.0
50	pH	9.1	8.1
	O2 ppm	9.0	9.0
	Cond.	430	380
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.0	9.0
	Cond.	430	430
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	9.2	9.2
	Cond.	470	470
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.3	9.3
	Cond.	480	480
	Temp(C)	20.0	20.0
Control	pH	8.0	8.0
	O2 ppm	9.2	9.2
	Cond.	492	492
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890110

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890110

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	7.8	7.9
	O2 ppm	8.1	9.3
	Cond.	276	270
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	8.8	9.4
	Cond.	346	382
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.0	9.4
	Cond.	450	432
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	9.0	9.4
	Cond.	476	454
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.1	9.6
	Cond.	488	470
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	9.6	9.6
	Cond.	492	480
	Temp(C)	20.0	20.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890134

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/19/89 at: 1015

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:15	52:15	71:15	96:25	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890134

TEST CONC. %		ELAPSED TIME 00:00	24:15	52:15	71:15	96:25
100	pH	6.8	7.8	7.8	7.9	8.0
	O2 ppm	8.0	8.8	9.2	9.5	9.3
	Cond.	3810				3880
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.9	7.9	7.9	7.8	8.0
	O2 ppm	8.9	9.0	9.7	9.6	9.4
	Cond.	2930				2960
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.0	7.9	7.9	7.9	7.9
	O2 ppm	9.2	9.4	9.6	9.6	9.3
	Cond.	2250				2280
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.9	7.9	7.9	7.9
	O2 ppm	10.2	9.5	9.5	9.7	9.3
	Cond.	1190				1230
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	7.8	7.8	7.9	7.8
	O2 ppm	10.0	9.4	9.3	9.9	9.6
	Cond.	510				530
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.4	7.8	7.8	8.0	7.8
	O2 ppm	9.8	9.7	9.6	9.7	9.5
	Cond.	201				210
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.9	7.8	7.8	7.8
	O2 ppm	10.2	9.8	9.6	9.7	9.7
	Cond.	168				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.9	7.7	7.7	7.7
	O2 ppm	10.0	9.0	8.5	9.0	9.6
	Cond.	168				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890115

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:40	51:00	76:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890115

TEST CONC. %		ELAPSED TIME 00:00	23:40	51:00	76:00	96:00
100	pH	6.8	7.9	8.0	8.0	8.0
	O2 ppm	8.4	10.2	9.5	10.1	10.2
	Cond.	3610				3550
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.9	7.8	7.9	7.9	8.0
	O2 ppm	8.9	10.2	9.7	10.2	10.3
	Cond.	2880				2800
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.1	7.9	7.9	7.9	7.4
	O2 ppm	9.2	10.5	9.5	10.2	10.3
	Cond.	2100				2110
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.5	10.2	9.7	10.2	10.2
	Cond.	1130				1120
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.7	7.8	7.8	7.8
	O2 ppm	9.6	10.1	9.7	10.1	10.0
	Cond.	700				700
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.7	7.7	7.7
	O2 ppm	9.8	10.4	9.6	10.1	9.9
	Cond.	209				210
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.7	7.7	7.7
	O2 ppm	9.7	10.4	9.8	10.2	10.2
	Cond.	170				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.6	7.9	7.8	7.7
	O2 ppm	9.9	10.3	9.8	10.4	10.4
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890091

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:00	44:00	68:00	96:30	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve : -
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890091

TEST CONC. %		ELAPSED TIME 00:00	19:00	44:00	68:00	96:30
100	pH	7.3	7.8	8.0	8.0	8.1
	O2 ppm	7.7	6.7	7.8	7.6	7.2
	Cond.	3190				3070
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.2	7.6	7.8	7.9	7.9
	O2 ppm	8.0	5.5	6.0	7.0	6.4
	Cond.	2500				2450
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.1	7.6	7.8	7.9	7.9
	O2 ppm	8.3	6.3	6.2	7.0	7.2
	Cond.	1890				1900
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.0	7.5	7.6	7.5	7.6
	O2 ppm	8.5	6.6	6.8	5.8	6.2
	Cond.	990				1000
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.0	7.5	7.5	7.6	7.6
	O2 ppm	8.5	8.0	8.0	7.9	8.1
	Cond.	510				510
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.0	7.3	7.5	7.5	7.6
	O2 ppm	8.4	7.3	8.6	8.7	8.2
	Cond.	200				215
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.4	7.5	7.5
	O2 ppm	8.5	7.4	8.4	8.7	8.4
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.4	7.4	7.5
	O2 ppm	8.6	8.4	8.3	7.9	8.4
	Cond.	170				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900024

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1600)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:10	45:00	68:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900024

TEST CONC. %		ELAPSED TIME 00:00	24:10	45:00	68:10	96:00
100	pH	7.8	7.6	7.6	7.8	7.8
	O2 ppm	7.8	9.5	9.5	9.4	9.6
	Cond.	182				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.6	7.6	7.8	7.8
	O2 ppm	7.8	9.4	9.7	9.5	9.7
	Cond.	181				192
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.3	7.5	7.7	7.7
	O2 ppm	10.4	9.9	9.9	9.8	9.6
	Cond.	162				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.3	7.5	7.7	7.7
	O2 ppm	10.1	10.2	9.8	9.6	9.7
	Cond.	162				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890097

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1600)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:00	40:30	64:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890097

TEST CONC. %		ELAPSED TIME 00:00	22:00	40:30	64:00	96:00
100	pH	8.0	7.6	7.8	7.7	7.7
	O2 ppm	10.4	9.4	9.5	9.2	9.6
	Cond.	175				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.7	7.5	7.8	7.7	7.7
	O2 ppm	10.2	9.4	9.3	9.2	9.8
	Cond.	172				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.4	7.7	7.6	7.7
	O2 ppm	10.2	9.2	9.2	9.0	9.4
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.4	7.7	7.6	7.7
	O2 ppm	10.2	9.5	9.5	9.2	9.3
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.4	7.7	7.7	7.6
	O2 ppm	10.0	9.4	9.6	9.4	9.5
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.4	7.7	7.7	7.8
	O2 ppm	10.1	9.8	9.6	9.6	9.8
	Cond.	167				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.8	7.7
	O2 ppm	10.0	9.8	9.8	9.8	10.3
	Cond.	167				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.7	7.7
	O2 ppm	10.0	10.2	9.8	9.6	9.8
	Cond.	169				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900022

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:10	45:00	68:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900022

TEST CONC. %		ELAPSED TIME 00:00	24:10	45:00	68:10	96:00
100	pH	7.7	7.6	7.6	7.7	7.7
	O2 ppm	10.0	0.6	9.5	9.6	9.4
	Cond.	165				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.5	7.6	7.7	7.7
	O2 ppm	10.2	9.6	9.5	9.7	9.5
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.3	7.5	7.7	7.7
	O2 ppm	10.4	10.2	9.9	9.8	9.6
	Cond.	162				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.3	7.5	7.7	7.7
	O2 ppm	10.4	10.2	9.8	9.6	9.7
	Cond.	162				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890095

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:00	40:30	64:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890095

TEST CONC. %		ELAPSED TIME 00:00	22:00	40:30	64:00	96:00
100	pH	7.8	7.5	7.9	7.8	7.8
	O2 ppm	10.2	10.1	9.8	9.5	9.5
	Cond.	172				167
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.3	7.7	7.7	7.7
	O2 ppm	10.0	9.4	9.4	9.3	9.5
	Cond.	172				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.3	7.3	7.7	7.7	7.7
	O2 ppm	10.0	9.4	9.3	9.3	9.4
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.2	7.8	7.7	7.7
	O2 ppm	9.8	9.8	9.4	9.2	9.5
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.2	7.8	7.7	7.7
	O2 ppm	9.8	9.8	9.5	9.2	9.3
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.3	7.7	7.7	7.7
	O2 ppm	9.9	9.9	9.7	9.8	9.8
	Cond.	172				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.8	7.7
	O2 ppm	10.0	9.8	10.2	9.8	10.3
	Cond.	167				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.7	7.7
	O2 ppm	10.0	10.2	9.8	9.6	9.8
	Cond.	169				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900059

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/21/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:25	43:15	75:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900059

TEST CONC. %		ELAPSED TIME 00:00	23:25 43:15 75:00 96:00
100	pH	7.7	7.6
	O2 ppm	11.7	9.4
	Cond.	229	248
	Temp(C)	15.0	15.0
75	pH	7.6	7.5
	O2 ppm	11.6	9.4
	Cond.	219	232
	Temp(C)	15.0	15.0
56	pH	7.5	7.5
	O2 ppm	11.6	9.9
	Cond.	205	218
	Temp(C)	15.0	15.0
25	pH	7.4	7.5
	O2 ppm	11.5	9.9
	Cond.	171	199
	Temp(C)	15.0	15.0
10	pH	7.3	7.5
	O2 ppm	11.6	9.9
	Cond.	165	182
	Temp(C)	15.0	15.0
1	pH	7.3	7.5
	O2 ppm	11.6	9.9
	Cond.	162	180
	Temp(C)	15.0	15.0
Control	pH	7.5	7.7
	O2 ppm	12.1	9.8
	Cond.	166	189
	Temp(C)	15.0	15.0
Control	pH	7.6	7.8
	O2 ppm	11.7	9.8
	Cond.	168	182
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900040

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/21/90 at: 1900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	16:00	44:50	63:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900040

TEST CONC. %		ELAPSED TIME 00:00	16:00	44:50	63:30	96:00
100	pH	7.7				7.7
	O2 ppm	10.4				10.0
	Cond.	270				298
	Temp(C)	15.0				15.0
100	pH	7.7				7.7
	O2 ppm	10.6				10.1
	Cond.	260				278
	Temp(C)	15.0				15.0
Control	pH	7.5				7.4
	O2 ppm	10.4				10.2
	Cond.	170				188
	Temp(C)	15.0				15.0
Control	pH	7.6				7.4
	O2 ppm	10.3				10.2
	Cond.	169				188
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900012

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	20:10	42:10	66:00	97:10	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900012

TEST CONC. %		ELAPSED TIME 00:00	20:10	42:10	66:00	97:10
100	pH	7.9	7.7	7.6	7.6	7.5
	O2 ppm	10.8	9.0	8.5	9.0	9.0
	Cond.	229				241
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.7	7.6	7.6	7.4
	O2 ppm	10.8	8.6	8.5	9.0	8.4
	Cond.	228				240
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.6	7.5	7.4
	O2 ppm	9.9	9.0	9.0	9.2	9.2
	Cond.	179				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.6	7.5	7.4
	O2 ppm	9.7	8.8	8.8	9.0	8.8
	Cond.	179				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890131

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:30	43:30	72:30	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890131

TEST CONC. %		ELAPSED TIME 00:00	19:30	43:30	72:30	96:15
100	pH	7.9	7.5	7.8	7.8	7.7
	O2 ppm	11.1	8.8	9.4	8.0	9.2
	Cond.	196				199
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.9	7.4	7.9	7.8	7.8
	O2 ppm	10.9	8.9	8.9	8.4	9.5
	Cond.	190				192
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.8	7.4	8.0	7.8	7.8
	O2 ppm	10.6	8.9	8.9	8.4	9.5
	Cond.	187				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.8	7.5	7.5	7.8	7.8
	O2 ppm	10.2	9.0	9.8	9.4	9.5
	Cond.	181				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.5	8.0	7.8	7.8
	O2 ppm	10.3	9.4	9.6	9.4	9.7
	Cond.	180				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.7	7.5	7.9	7.8	7.8
	O2 ppm	10.4	9.5	9.6	9.6	9.7
	Cond.	177				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.6	7.8
	O2 ppm	10.5	10.0	9.3	9.2	9.8
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.7	7.8
	O2 ppm	10.4	9.9	9.4	9.4	9.6
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890113

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:40	51:00	75:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890113

TEST CONC. %		ELAPSED TIME 00:00	23:40	51:00	75:30	96:00
100	pH	7.9	7.8	7.8	7.8	7.8
	O2 ppm	10.3	10.3	9.4	9.8	9.6
	Cond.	239				242
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.7	7.8	7.8	7.8	7.8
	O2 ppm	10.2	10.4	9.6	9.9	10.0
	Cond.	222				222
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.7	7.7	7.8	7.8
	O2 ppm	10.0	10.1	9.5	10.0	10.2
	Cond.	209				210
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.7	7.7	7.8	7.8
	O2 ppm	9.9	10.0	9.5	9.9	10.0
	Cond.	191				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.7	7.6	7.7	7.7
	O2 ppm	9.8	10.1	9.3	9.9	10.1
	Cond.	181				179
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.7	7.8	7.8
	O2 ppm	9.8	10.2	9.9	10.2	10.3
	Cond.	178				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.7	7.7	7.7
	O2 ppm	9.7	10.4	9.8	10.2	10.2
	Cond.	170				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.6	7.9	7.8	7.7
	O2 ppm	9.9	10.3	9.8	10.4	10.4
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890087

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/17/89 at: 1145

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:55	46:55	76:55	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890087

TEST CONC. %		ELAPSED TIME 00:00	21:55	46:55	76:55	96:55
100	pH	8.0	7.5	7.5	7.6	7.5
	O2 ppm	9.4	8.3	9.0	9.0	9.2
	Cond.	200				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.4	7.4	7.6	7.5
	O2 ppm	9.3	8.5	8.7	8.7	9.1
	Cond.	190				184
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.3	7.4	7.4	7.6	7.5
	O2 ppm	9.0	8.5	8.5	9.0	9.3
	Cond.	185				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.4	7.4	7.6	7.4
	O2 ppm	8.6	8.5	8.9	9.0	9.1
	Cond.	175				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.3	7.4	7.5	7.4
	O2 ppm	8.4	8.5	8.9	8.9	9.3
	Cond.	170				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.0	7.3	7.3	7.5	7.5
	O2 ppm	8.4	8.7	8.8	9.0	9.4
	Cond.	170				173
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4
	O2 ppm	8.6	8.2	8.1	8.5	8.9
	Cond.	167				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.1	7.2	7.3	7.4
	O2 ppm	8.8	7.7	8.2	8.5	9.0
	Cond.	170				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900060

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/21/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME,*1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:25	43:15	75:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900060

TEST CONC. %		ELAPSED TIME 00:00	23:25	43:15	75:00	96:00
100	pH	7.9				7.6
	O2 ppm	11.8				9.7
	Cond.	169				180
	Temp(C)	15.0				15.0
75	pH	7.7				7.7
	O2 ppm	11.6				9.8
	Cond.	168				178
	Temp(C)	15.0				15.0
56	pH	7.6				7.7
	O2 ppm	11.4				9.9
	Cond.	165				177
	Temp(C)	15.0				15.0
25	pH	7.6				7.7
	O2 ppm	11.4				9.9
	Cond.	162				176
	Temp(C)	15.0				15.0
10	pH	7.5				7.6
	O2 ppm	11.2				9.9
	Cond.	160				175
	Temp(C)	15.0				15.0
1	pH	7.5				7.6
	O2 ppm	11.2				9.9
	Cond.	160				172
	Temp(C)	15.0				15.0
Control	pH	7.5				7.7
	O2 ppm	12.1				9.8
	Cond.	166				189
	Temp(C)	15.0				15.0
Control	pH	7.6				7.8
	O2 ppm	11.7				9.8
	Cond.	168				182
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900038

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/20/90 at: 1710

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:30	TOTAL MORTALITY %
100	0	10	100
Control	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 100.0 %

Comments : Single Concentration Test - 100% mortality

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900038

TEST CONC. %		ELAPSED TIME 00:00	01:30
100	pH	8.3	8.2
	O2 ppm	10.2	10.0
	Cond.	178	180
	Temp(C)	15.0	15.0
Control	pH	7.7	7.7
	O2 ppm	9.8	9.8
	Cond.	160	160
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900014

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1750

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	17:50	39:50	64:20	94:50	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900014

TEST CONC. %		ELAPSED TIME 00:00	17:50	39:50	64:20	94:50
100	pH	8.2	7.7	7.6	7.6	7.4
	O2 ppm	10.5	8.8	8.7	9.0	9.0
	Cond.	174				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.7	7.7	7.6	7.3
	O2 ppm	10.4	8.9	8.5	8.8	8.6
	Cond.	175				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.6	7.5	7.4
	O2 ppm	9.9	9.0	9.0	9.2	9.2
	Cond.	179				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.6	7.5	7.4
	O2 ppm	9.7	8.8	8.8	9.0	8.8
	Cond.	179				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890132

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:30	43:30	72:30	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890132

TEST CONC. %		ELAPSED TIME 00:00	19:30	43:30	72:30	96:15
100	pH	8.2	7.9	8.0	7.8	7.8
	O2 ppm	11.2	9.0	10.2	8.4	9.6
	Cond.	181				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	8.1	7.9	7.9	7.8	7.8
	O2 ppm	11.2	9.2	9.8	9.3	9.5
	Cond.	180				186
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	8.0	7.9	7.9	7.7	7.8
	O2 ppm	10.7	9.5	9.8	9.2	9.6
	Cond.	180				186
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.8	7.8	7.9	7.7	7.9
	O2 ppm	10.4	9.6	9.8	9.2	9.6
	Cond.	178				184
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.8	7.8	7.6	7.7
	O2 ppm	10.3	9.6	9.2	8.9	9.0
	Cond.	177				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.6	7.6	7.8	7.6	7.7
	O2 ppm	10.3	9.5	9.6	9.2	9.0
	Cond.	177				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.6	7.8
	O2 ppm	10.5	10.0	9.3	9.2	9.8
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.7	7.8
	O2 ppm	10.4	9.9	9.4	9.4	9.6
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890114

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:40	51:00	75:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890114

TEST CONC. %		ELAPSED TIME 00:00	23:40	51:00	75:30	96:00
100	pH	8.2	7.7	7.8	7.8	7.7
	O2 ppm	10.2	9.6	9.4	9.7	9.8
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.8	7.6	7.8	7.9	7.8
	O2 ppm	10.2	9.9	9.4	9.8	10.0
	Cond.	172				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.6	7.7	7.7	7.8	7.7
	O2 ppm	9.9	9.9	9.0	9.8	9.8
	Cond.	172				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.6	7.8	7.8	7.7
	O2 ppm	9.9	9.9	9.2	9.7	9.9
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.6	7.8	7.8	7.7
	O2 ppm	9.8	10.1	9.4	9.8	9.8
	Cond.	171				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.8	7.8	7.7
	O2 ppm	9.9	10.5	9.4	9.9	10.0
	Cond.	170				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.7	7.7	7.7
	O2 ppm	9.7	10.4	9.8	10.2	10.2
	Cond.	170				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.6	7.9	7.8	7.7
	O2 ppm	9.9	10.3	9.8	10.4	10.4
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890085

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/17/89 at: 1145

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:55	46:55	69:55	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890085

TEST CONC. %		ELAPSED TIME 00:00	21:55	46:55	69:55	96:55
100	pH	8.3	7.5	7.4	7.5	7.4
	O2 ppm	9.8	8.3	8.2	8.7	9.0
	Cond.	183				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.9	7.4	7.4	7.4	7.3
	O2 ppm	9.3	7.8	7.8	8.5	8.9
	Cond.	180				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.5	7.4	7.4	7.5	7.3
	O2 ppm	9.1	8.2	8.0	8.3	9.0
	Cond.	180				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.4	7.4	7.5	7.4
	O2 ppm	8.6	8.3	8.2	8.9	9.1
	Cond.	175				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.0	7.4	7.4	7.5	7.4
	O2 ppm	8.6	8.3	8.6	8.9	9.4
	Cond.	170				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.0	7.5	8.5	7.6	7.4
	O2 ppm	8.5	9.0	8.9	9.3	9.6
	Cond.	170				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4
	O2 ppm	8.6	8.2	8.5	8.5	8.9
	Cond.	167				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.1	7.3	7.3	7.4
	O2 ppm	8.8	7.7	8.5	8.5	9.0
	Cond.	170				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900068

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/26/90
Received : 03/26/90
Tested : 03/28/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:10	42:00	71:20	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900068

TEST CONC. %		ELAPSED TIME 00:00	25:10 42:00 71:20 96:00
100	pH	7.8	7.6
	O2 ppm	10.1	9.4
	Cond.	188	190
	Temp(C)	15.0	15.0
75	pH	7.6	7.3
	O2 ppm	10.3	9.3
	Cond.	181	186
	Temp(C)	15.0	15.0
56	pH	7.5	7.4
	O2 ppm	10.4	9.2
	Cond.	179	183
	Temp(C)	15.0	15.0
25	pH	7.4	7.4
	O2 ppm	10.5	9.2
	Cond.	170	179
	Temp(C)	15.0	15.0
10	pH	7.4	7.4
	O2 ppm	10.5	9.2
	Cond.	168	177
	Temp(C)	15.0	15.0
1	pH	7.3	7.4
	O2 ppm	10.6	9.6
	Cond.	165	175
	Temp(C)	15.0	15.0
Control	pH	7.3	7.5
	O2 ppm	10.6	9.3
	Cond.	162	172
	Temp(C)	15.0	15.0
Control	pH	7.3	7.5
	O2 ppm	10.6	9.4
	Cond.	165	173
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900029

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/12/90
Received : 02/12/90
Tested : 02/14/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	26:00	44:00	68:00	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900029

TEST CONC. %		ELAPSED TIME 00:00	26:00	44:00	68:00	97:00
100	pH	7.8				7.6
	O2 ppm	9.9				8.5
	Cond.	185				198
	Temp(C)	15.0				15.0
100	pH	7.8				7.5
	O2 ppm	9.7				8.7
	Cond.	185				195
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.0				9.6
	Cond.	158				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.2				9.6
	Cond.	160				175
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900016

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/08/90
Received : 01/08/90
Tested : 01/09/90 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	18:10	42:00	64:10	95:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900016

TEST CONC. %		ELAPSED TIME 00:00	18:10	42:00	64:10	95:00
100	pH	7.3	7.7	7.6	7.5	7.7
	O2 ppm	9.8	8.8	8.8	7.9	8.2
	Cond.	180				191
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.3	7.7	7.6	7.6	7.7
	O2 ppm	10.0	9.0	8.9	8.2	8.4
	Cond.	179				191
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.5	7.6	7.6	7.7
	O2 ppm	10.2	10.4	9.0	8.7	8.6
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.5	7.6	7.7	7.7
	O2 ppm	10.2	10.2	9.1	8.2	8.5
	Cond.	171				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890123

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/11/89
Received : 12/11/89
Tested : 12/12/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	20:10	44:10	68:10	97:10	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890123

TEST CONC. %		ELAPSED TIME 00:00	20:10	44:10	68:10	97:10
100	pH	7.5	7.6	7.7	7.7	7.7
	O2 ppm	10.4	9.4	9.8	9.4	9.2
	Cond.	172				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.6	7.7	7.8	7.8
	O2 ppm	10.8	9.1	8.6	9.5	9.0
	Cond.	172				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.5	7.6	7.7	7.7	7.8
	O2 ppm	10.8	9.1	8.6	9.4	9.2
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.5	7.6	7.7	7.7	7.8
	O2 ppm	11.1	9.2	8.7	9.6	9.6
	Cond.	170				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	7.6	7.7	7.8	7.8
	O2 ppm	11.2	9.0	8.5	9.5	9.4
	Cond.	169				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.5	7.7	7.8	7.8	7.9
	O2 ppm	11.1	9.4	9.0	9.4	9.6
	Cond.	169				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.6	7.7	7.8	7.8
	O2 ppm	11.2	9.6	9.2	9.5	9.6
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.6	7.7	7.8	7.9
	O2 ppm	11.2	9.6	9.0	9.3	9.2
	Cond.	168				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890103

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/13/89
Received : 11/13/89
Tested : 11/14/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	45:10	69:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890103

TEST CONC. %		ELAPSED TIME 00:00	23:10	45:10	69:10	96:00
100	pH	7.8	7.7	7.8	7.8	7.8
	O2 ppm	10.1	9.5	9.9	10.6	10.0
	Cond.	190				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.7	7.7	7.8	7.9
	O2 ppm	10.0	9.6	10.0	10.6	10.2
	Cond.	185				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.6	7.7	7.8	7.8
	O2 ppm	10.0	9.5	9.9	10.4	9.9
	Cond.	180				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.6	7.7	7.8	7.8
	O2 ppm	9.7	9.6	9.9	10.3	9.8
	Cond.	175				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.7	7.8	7.8	7.9
	O2 ppm	9.6	9.6	10.0	10.4	10.2
	Cond.	171				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.7	7.8	7.9
	O2 ppm	9.5	9.5	9.8	10.3	10.3
	Cond.	169				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	10.0	9.9	9.9	10.4	9.5
	Cond.	169				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.8	7.6
	O2 ppm	9.8	9.9	9.8	10.0	9.2
	Cond.	169				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890081

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	17:00	41:30	65:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890081

TEST CONC. %		ELAPSED TIME 00:00	17:00	41:30	65:30	96:00
100	pH	7.8	7.4	7.5	7.4	7.4
	O2 ppm	9.8	8.6	8.8	8.2	7.8
	Cond.	221				220
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.4	7.5	7.4	7.4
	O2 ppm	9.4	8.7	8.6	8.2	8.4
	Cond.	210				210
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.3	7.5	7.6	7.5	7.5
	O2 ppm	9.2	8.9	9.0	8.6	8.6
	Cond.	200				200
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.3	7.5	7.4	7.4
	O2 ppm	9.2	8.9	8.9	8.8	8.8
	Cond.	190				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.3	7.4	7.3	7.4
	O2 ppm	9.0	8.4	8.4	8.2	8.2
	Cond.	180				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.4	7.5	7.4	7.4
	O2 ppm	9.0	9.2	9.0	8.7	8.7
	Cond.	179				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.2	7.3	7.3
	O2 ppm	9.1	8.7	8.2	7.8	7.8
	Cond.	173				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.4	7.3	7.4	7.3
	O2 ppm	9.2	9.5	9.1	8.8	8.8
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900049

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/05/90
Received : 03/05/90
Tested : 03/06/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	97:30	TOTAL MORTALITY %
100	0	10	10	10	10	100
75	0	10	10	10	10	100
56	0	10	10	10	10	100
25	0	10	10	10	10	100
10	0	10	10	10	10	100
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 3.2 %

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Karber

TOXICITY TEST PARAMETERS

Sample Number: 05900049

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	97:30
100	pH	8.1	8.0			
	O2 ppm	9.9	9.9			
	Cond.	192	189			
	Temp(C)	15.0	15.0			
75	pH	7.9	7.9			
	O2 ppm	9.8	10.0			
	Cond.	186	185			
	Temp(C)	15.0	15.0			
56	pH	7.8	7.8			
	O2 ppm	10.1	9.8			
	Cond.	180	180			
	Temp(C)	15.0	15.0			
25	pH	7.7	7.7			
	O2 ppm	10.2	9.8			
	Cond.	171	170			
	Temp(C)	15.0	15.0			
10	pH	7.6	7.6			
	O2 ppm	10.3	9.5			
	Cond.	168	170			
	Temp(C)	15.0	15.0			
1	pH	7.6				7.8
	O2 ppm	10.3				9.2
	Cond.	166				172
	Temp(C)	15.0				15.0
Control	pH	7.4				7.5
	O2 ppm	10.2				9.6
	Cond.	167				171
	Temp(C)	15.0				15.0
Control	pH	7.5				7.4
	O2 ppm	10.3				9.3
	Cond.	168				172
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900023

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:10	45:00	68:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900023

TEST CONC. %		ELAPSED TIME 00:00	24:10 45:00 68:10 96:00
100	pH	7.6	7.7
	O2 ppm	10.2	9.8
	Cond.	165	175
	Temp(C)	15.0	15.0
100	pH	7.6	7.7
	O2 ppm	10.1	9.6
	Cond.	166	175
	Temp(C)	15.0	15.0
Control	pH	7.1	7.7
	O2 ppm	10.4	9.6
	Cond.	162	175
	Temp(C)	15.0	15.0
Control	pH	7.1	7.7
	O2 ppm	10.4	9.7
	Cond.	162	176
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900001

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 01/01/90
Received : 01/01/90
Tested : 01/02/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	28:00	45:00	69:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900001

TEST CONC. %		ELAPSED TIME 00:00	28:00	45:00	69:30	96:00
100	pH	7.8	7.5	7.7	7.7	7.7
	O2 ppm	11.4	9.0	9.0	9.6	9.1
	Cond.	165				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.5	7.7	7.7	7.7
	O2 ppm	11.2	9.1	9.3	9.7	9.2
	Cond.	165				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.4	7.5	7.6	7.6
	O2 ppm	10.6	9.2	9.1	9.1	8.8
	Cond.	165				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.3	7.5	7.6	7.6
	O2 ppm	10.6	8.6	8.9	9.0	8.8
	Cond.	165				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890122

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/04/89
Received : 12/04/89
Tested : 12/05/89 at: 1655

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	16:45	45:45	66:45	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890122

TEST CONC. %		ELAPSED TIME 00:00	16:45	45:45	66:45	96:15
100	pH	7.8	7.6	7.8	7.8	7.8
	O2 ppm	11.3	8.2	9.1	8.8	9.4
	Cond.	178				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.6	7.8	7.8	7.7
	O2 ppm	11.2	8.3	9.3	8.9	9.3
	Cond.	178				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.6	7.8	7.8	7.7
	O2 ppm	11.2	8.3	9.5	8.8	9.4
	Cond.	179				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.5	7.7	7.7	7.6
	O2 ppm	11.3	8.2	8.8	8.5	9.2
	Cond.	180				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.5	7.7	7.7	7.6
	O2 ppm	11.3	8.2	9.1	8.6	8.8
	Cond.	180				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.5	7.6	7.7	7.6
	O2 ppm	11.2	8.2	8.8	8.4	8.6
	Cond.	181				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.5	7.7	7.7	7.6
	O2 ppm	10.5	8.6	9.4	9.3	9.4
	Cond.	172				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.5	7.6	7.7	7.6
	O2 ppm	11.2	8.7	9.2	9.0	9.3
	Cond.	176				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890096

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:00	40:30	64:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890096

TEST CONC. %		ELAPSED TIME 00:00	22:00	40:30	64:00	96:00
100	pH	7.9	7.6	7.8	7.9	7.8
	O2 ppm	9.8	9.8	10.0	9.7	10.2
	Cond.	172				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.6	7.8	7.9	7.7
	O2 ppm	9.9	9.6	9.7	9.4	9.8
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.5	7.5	7.8	7.9	7.8
	O2 ppm	9.9	9.8	10.1	9.8	10.2
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.5	7.5	7.8	7.8	7.8
	O2 ppm	9.9	10.0	10.0	9.7	10.2
	Cond.	167				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.5	7.7	7.8	7.7
	O2 ppm	8.9	10.0	9.6	9.6	9.8
	Cond.	167				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.4	7.8	7.9	7.8
	O2 ppm	10.0	10.0	10.1	9.8	10.1
	Cond.	167				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.7	7.7
	O2 ppm	10.0	9.8	10.2	9.8	10.3
	Cond.	167				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.7	7.7
	O2 ppm	10.0	10.2	9.8	9.6	9.8
	Cond.	169				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890083

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	17:00	41:45	65:45	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890083

TEST CONC. %		ELAPSED TIME 00:00	17:00	41:45	65:45	96:15
100	pH	7.7	7.5	7.7	7.5	7.5
	O2 ppm	9.8	9.1	9.2	7.5	8.9
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.5	7.7	7.5	7.5
	O2 ppm	9.6	9.2	9.2	8.8	8.8
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.5	7.6	7.4	7.4
	O2 ppm	9.3	9.2	8.4	7.8	7.8
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.4	7.6	7.5	7.4
	O2 ppm	9.1	9.1	8.9	8.5	8.7
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.4	7.5	7.5	7.4
	O2 ppm	9.0	9.1	8.6	8.4	8.6
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.4	7.5	7.5	7.4
	O2 ppm	9.0	9.0	9.0	8.5	8.5
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.2	7.3	7.3
	O2 ppm	9.1	8.7	8.2	7.8	7.8
	Cond.	173				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.4	7.3	7.4	7.3
	O2 ppm	9.2	9.5	9.1	8.8	8.8
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

Polysar Limited (continued)

05900013 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900039 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900058 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

storm water

storm water

storm water

rain gauge

intake water

Polysar Limited (continued)

storm water

OT cooling water

05890097 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900024 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Batch

05890091 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890115 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890134 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900017 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900041 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900061 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

05890086 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890112 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890133 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900060 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

emergency overflow

process effluent

process effluent

process effluent

combined effluent

05890087 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890113 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890131 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900012 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900040 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900059 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

emergency overflow

storm water

OT cooling water

05890095 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900022 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

process effluent

combined effluent

05890081 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890103 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890123 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900016 sampled: 01/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900029 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900068 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890085 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890114 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890132 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900014 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900038 sampled: 02/19/90 LC50: >100 %
95% fid. limits: 0.0 - 100.0 %
comments: Single Concentration Test - 100% mortality

COMPANY: Polysar Limited, Sarnia (30007)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for forty trout bioassays, conducted on process effluent, batch effluent, combined effluent and once through cooling water samples collected betweeen October 1989 and March 1990, were provided by Polysar Limited. Twenty-two of twenty-four samples collected from the four combined effluent discharge locations (0200, 0400, 0500, 1100) were determined to have been non-acutely lethal to test fish. The other two combined effluent samples were determined to have been acutely lethal. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure was 3.2 % (control point 0200 - March). The combined effluent sample (0500) collected in Febrauary was also lethal, causing 100 % mortality in non-diluted effluent. All the samples collected from the locations; OTCW 1400, OTCW 1600, batch 1700 and process effluent 1800 were determined to have been non-acutely lethal to test fish.

---

combined effluent

05890083 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890096 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890122 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900001 sampled: 01/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900023 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900049 sampled: 03/05/90 LC50: 3.2 %
95% fid. limits: 0.0 - 0.0 %
comments:

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900064

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/21/90
Received : 03/21/90
Tested : 03/24/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:35	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900064

TEST CONC. %		ELAPSED TIME 00:00	48:35
100	pH	8.1	7.9
	O2 ppm	8.8	8.4
	Cond.	610	610
	Temp(C)	20.0	20.0
50	pH	8.2	8.1
	O2 ppm	8.7	8.6
	Cond.	580	590
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	8.9	8.8
	Cond.	530	540
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	9.2	9.0
	Cond.	540	530
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.3	9.3
	Cond.	520	520
	Temp(C)	20.0	20.0
Control	pH	8.3	8.3
	O2 ppm	9.4	9.4
	Cond.	500	510
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900046

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/21/90
Received : 02/21/90
Tested : 02/22/90 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900046

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	7.9
	O2 ppm	8.5	8.5
	Cond.	590	600
	Temp(C)	20.0	20.0
50	pH	8.2	8.1
	O2 ppm	8.4	8.5
	Cond.	525	550
	Temp(C)	20.0	20.0
26	pH	8.3	8.3
	O2 ppm	8.6	8.6
	Cond.	510	525
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	8.6	8.9
	Cond.	495	495
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	8.8	8.8
	Cond.	485	471
	Temp(C)	20.0	20.0
Control	pH	8.5	8.3
	O2 ppm	9.3	8.8
	Cond.	488	462
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900021

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/24/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900021

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.5	7.7
	O2 ppm	7.8	8.7
	Cond.	740	740
	Temp(C)	20.0	20.0
50	pH	7.8	7.9
	O2 ppm	8.4	8.8
	Cond.	610	610
	Temp(C)	20.0	20.0
26	pH	7.9	8.0
	O2 ppm	8.8	9.0
	Cond.	580	580
	Temp(C)	20.0	20.0
13	pH	8.0	8.1
	O2 ppm	9.0	9.2
	Cond.	520	520
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.3	9.2
	Cond.	510	510
	Temp(C)	20.0	20.0
Control	pH	8.1	8.0
	O2 ppm	9.4	9.2
	Cond.	492	496
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900002

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/03/90
Received : 01/03/90
Tested : 01/03/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900002

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.6	7.7
	O2 ppm	8.6	8.0
	Cond.	720	720
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	8.7	8.7
	Cond.	600	600
	Temp(C)	20.0	20.0
26	pH	8.2	8.2
	O2 ppm	8.7	8.7
	Cond.	560	560
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	8.7	8.7
	Cond.	550	550
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	8.8	8.8
	Cond.	490	490
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.2	9.2
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890109

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890109

TEST CONC. %		ELAPSED TIME 00:00	49:00
100	pH	7.9	7.8
	O2 ppm	8.6	9.2
	Cond.	520	520
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	9.0	9.4
	Cond.	510	500
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.0	9.4
	Cond.	500	500
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	9.2	9.4
	Cond.	498	490
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.2	9.6
	Cond.	498	488
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	9.6	9.7
	Cond.	492	474
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890090

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:30	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890090

TEST CONC. %		ELAPSED TIME 00:00	48:30
100	pH	8.6	8.0
	O2 ppm	9.6	8.0
	Cond.	423	460
	Temp(C)	20.0	20.0
50	pH	8.4	8.1
	O2 ppm	9.2	8.1
	Cond.	470	460
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	8.8	8.5
	Cond.	485	482
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	8.8	8.7
	Cond.	495	485
	Temp(C)	20.0	20.0
6	pH	8.2	8.2
	O2 ppm	8.8	8.8
	Cond.	485	485
	Temp(C)	20.0	20.0
Control	pH	8.0	8.1
	O2 ppm	8.8	9.0
	Cond.	490	490
	Temp(C)	20.0	20.0

COMPANY: Novacor Chemicals Ltd., Mooretown (380105)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
Data for six Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by Novacor Chemicals Ltd. of Mooretown. Due to scheduling conflicts the December sample was collected on January 3, 1990. All six samples were not acutely lethal to Daphnia.

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combined effluent

05890090 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890109 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900002 sampled: 01/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900021 sampled: 01/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900046 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900064 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

storm water

emergency overflow

storm water

MISA Trout

TOXICITY TEST REPORT Sample: 05900064

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/21/90
Received : 03/21/90
Tested : 03/21/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:25	42:15	74:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900064

TEST CONC. %		ELAPSED TIME 00:00	22:25	42:15	74:00	96:00
100	pH	8.4				7.7
	O2 ppm	12.4				9.6
	Cond.	580				580
	Temp(C)	15.0				15.0
100	pH	8.4				7.7
	O2 ppm	12.4				9.4
	Cond.	580				590
	Temp(C)	15.0				15.0
Control	pH	7.4				7.7
	O2 ppm	11.5				10.0
	Cond.	155				178
	Temp(C)	15.0				15.0
Control	pH	7.4				7.8
	O2 ppm	11.6				10.0
	Cond.	155				178
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900046

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/21/90
Received : 02/21/90
Tested : 01/22/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	28:10	47:10	73:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900046

TEST CONC. %		ELAPSED TIME 00:00	28:10 47:10 73:10 96:00
100	pH	7.8	7.8
	O2 ppm	9.8	9.3
	Cond.	520	580
	Temp(C)	15.0	15.0
100	pH	7.8	7.8
	O2 ppm	9.9	9.4
	Cond.	510	580
	Temp(C)	15.0	15.0
Control	pH	7.5	7.7
	O2 ppm	10.4	9.1
	Cond.	162	180
	Temp(C)	15.0	15.0
Control	pH	7.5	7.8
	O2 ppm	10.6	9.1
	Cond.	162	180
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900021

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:10	47:25	78:00	97:10	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900021

TEST CONC. %		ELAPSED TIME 00:00	25:10 47:25 78:00 97:10
100	pH	7.4	7.5
	O2 ppm	8.6	8.2
	Cond.	680	720
	Temp(C)	15.0	15.0
75	pH	7.4	7.5
	O2 ppm	8.8	8.7
	Cond.	550	600
	Temp(C)	15.0	15.0
56	pH	7.4	7.4
	O2 ppm	9.2	8.6
	Cond.	442	455
	Temp(C)	15.0	15.0
25	pH	7.4	7.4
	O2 ppm	9.4	8.7
	Cond.	299	302
	Temp(C)	15.0	15.0
10	pH	7.5	7.3
	O2 ppm	9.8	8.8
	Cond.	230	234
	Temp(C)	15.0	15.0
1	pH	7.6	7.3
	O2 ppm	9.8	8.6
	Cond.	182	191
	Temp(C)	15.0	15.0
Control	pH	7.5	7.3
	O2 ppm	9.8	8.4
	Cond.	178	179
	Temp(C)	15.0	15.0
Control	pH	7.6	7.3
	O2 ppm	9.8	8.5
	Cond.	179	179
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900002

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/03/90
Received : 01/03/90
Tested : 01/04/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:00	46:30	69:00	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900002

TEST CONC. %		ELAPSED TIME 00:00	21:00	46:30	69:00	97:00
100	pH	7.3				7.6
	O2 ppm	8.3				8.4
	Cond.	620				650
	Temp(C)	15.0				15.0
75	pH	7.4				7.5
	O2 ppm	8.6				8.2
	Cond.	510				520
	Temp(C)	15.0				15.0
56	pH	7.4				7.6
	O2 ppm	9.5				8.2
	Cond.	426				435
	Temp(C)	15.0				15.0
25	pH	7.5				7.6
	O2 ppm	9.9				8.4
	Cond.	285				300
	Temp(C)	15.0				15.0
10	pH	7.6				7.6
	O2 ppm	10.2				8.5
	Cond.	222				238
	Temp(C)	15.0				15.0
1	pH	7.6				7.6
	O2 ppm	10.3				8.5
	Cond.	175				185
	Temp(C)	15.0				15.0
Control	pH	7.6				7.6
	O2 ppm	10.3				8.9
	Cond.	166				180
	Temp(C)	15.0				15.0
Control	pH	7.6				7.6
	O2 ppm	10.3				8.2
	Cond.	170				180
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890109

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:10	49:00	73:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890109

TEST CONC. %		ELAPSED TIME 00:00	22:10	49:00	73:10	96:00
100	pH	7.9	7.8	7.8	7.7	7.7
	O2 ppm	9.3	9.8	9.6	9.9	10.0
	Cond.	484				476
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.7	7.9	7.7	7.7
	O2 ppm	9.4	9.9	9.9	10.2	9.6
	Cond.	405				399
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.7	7.8	7.7	7.7
	O2 ppm	9.4	9.9	9.9	10.2	9.7
	Cond.	350				350
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.7	7.8	7.7	7.7
	O2 ppm	9.6	10.0	10.0	10.1	9.7
	Cond.	250				252
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.7	7.9	7.8	7.7
	O2 ppm	9.7	10.1	10.0	10.3	9.9
	Cond.	202				205
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.8	7.9	7.9	7.7
	O2 ppm	9.8	10.3	10.2	10.2	10.0
	Cond.	165				170
	Temp(C)	15.0	15.0	15.5	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9
	Cond.	165				165
	Temp(C)	15.0	15.0	15.5	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2
	Cond.	165				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890090

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:00	44:30	68:00	96:30	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890090

TEST CONC. %		ELAPSED TIME 00:00	19:00	44:30	68:00	96:30
100	pH	8.3	7.5	7.5	7.4	7.4
	O2 ppm	9.2	7.1	6.4	6.1	6.1
	Cond.	373				370
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.7	7.5	7.5	7.4	7.4
	O2 ppm	9.0	7.2	7.4	7.0	7.2
	Cond.	322				320
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.4	7.4	7.4	7.4
	O2 ppm	8.9	7.3	7.4	7.2	7.2
	Cond.	290				290
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.4	7.4	7.4	7.4
	O2 ppm	8.8	7.2	7.0	6.6	6.8
	Cond.	220				228
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.4	7.4	7.4	7.5
	O2 ppm	8.8	7.9	7.8	7.6	7.6
	Cond.	194				200
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.1	7.4	7.4	7.4	7.5
	O2 ppm	8.7	7.9	6.6	6.6	7.2
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.5	7.5	7.5
	O2 ppm	8.5	7.4	8.7	8.7	8.4
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.4	7.4	7.5
	O2 ppm	8.6	8.4	7.9	7.9	8.4
	Cond.	170				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: Novacor Chemicals Ltd., Mooretown (380105)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for five trout bioassays, conducted on combined effluent discharge samples collected between October 1989 and March 1990, were provided by Novacor Chemicals Limited. All five combined effluent samples were determined to have been non-acutely lethal to test fish.

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combined effluent

05890090 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890109 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900002 sampled: 01/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900021 sampled: 01/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900046 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900064 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

storm water

emergency overflow

storm water

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900350

TEST CONDITIONS

Company : Morbern Inc.
Cornwall, ONT
(12580007)
Region : Southeast
Industry : Organic Chemical

Control point : OTCW, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : D.JULIEN
Date Collected : 03/06/90
Received : 03/07/90
Tested : 03/07/90 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : UNSEANSONABLE WARM TEMP RESULTED IN ELEVATION

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06900350

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.1
	O2 ppm	9.7		8.2
	Cond.	336		351
	Temp(C)	21.0	22.0	22.0
65	pH	8.1		8.2
	O2 ppm	9.5		7.8
	Cond.	363		376
	Temp(C)	21.0	22.0	22.0
50	pH	8.1		8.2
	O2 ppm	9.1		7.9
	Cond.	376		389
	Temp(C)	21.0	22.0	22.0
30	pH	8.2		8.2
	O2 ppm	8.6		8.3
	Cond.	392		404
	Temp(C)	21.0	22.0	22.0
20	pH	8.2		8.2
	O2 ppm	8.1		8.2
	Cond.	400		412
	Temp(C)	21.0	22.0	22.0
10	pH	8.3		8.2
	O2 ppm	8.6		7.8
	Cond.	407		416
	Temp(C)	21.0	22.0	22.0
Control	pH	8.3		8.2
	O2 ppm	8.1		7.0
	Cond.	412		418
	Temp(C)	21.0	22.0	22.0

TOXICITY TEST REPORT Sample: 06900352

TEST CONDITIONS

Company : Morbern Inc.
Cornwall, ONT
(12580007)
Region : Southeast
Industry : Organic Chemical

Control point : OTCW, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : D.JULIEN
Date Collected : 03/06/90
Received : 03/07/90
Tested : 03/07/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : UNSEANSONABLE WARM TEMPERATURES TEMP ELEVATED

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06900352

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.9		8.2
	Cond.	339		350
	Temp(C)	21.0	22.0	22.0
65	pH	8.1		8.2
	O2 ppm	8.5		7.9
	Cond.	367		378
	Temp(C)	21.0	22.0	22.0
50	pH	8.1		8.2
	O2 ppm	8.6		7.6
	Cond.	379		390
	Temp(C)	21.0	22.0	22.0
30	pH	8.2		8.2
	O2 ppm	8.2		7.6
	Cond.	395		405
	Temp(C)	21.0	22.0	22.0
20	pH	8.2		8.2
	O2 ppm	8.8		7.5
	Cond.	402		412
	Temp(C)	21.0	22.0	22.0
10	pH	8.2		8.2
	O2 ppm	8.6		7.5
	Cond.	411		420
	Temp(C)	21.0	22.0	22.0
Control	pH	8.3		8.2
	O2 ppm	8.1		7.0
	Cond.	412		418
	Temp(C)	21.0	22.0	22.0

COMPANY: Morbern Inc., Cornwall (12580007)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Morbern Inc. of Cornwall commenced the monitoring regulations on February 1 1990, and therefore have only submitted data for two Daphnia magna acute lethality toxicity tests. Both samples from once through cooling water outfalls #100 and 200 were not acutely lethal to Daphnia.

OTCW

06900352 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: UNSEANSONABLE WARM TEMPERATURES TEMP ELEVATED

OTCW

06900350 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: UNSEANSONABLE WARM TEMP RESULTED IN ELEVATION

MISA Trout

TOXICITY TEST REPORT Sample: 06900351

TEST CONDITIONS

Company : Morbern Inc.
Cornwall, ONT
(12580007)
Region : Southeast
Industry : Organic Chemical

Control point : OTCW, (200)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : D. JULIEN
Date Collected : 03/06/90
Received : 03/07/90
Tested : 03/07/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900351

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0	8.2	8.1	8.2	8.1
	O2 ppm	9.9	9.7	9.2	10.6	9.7
	Cond.	343				341
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.8	9.8	8.7	10.2	9.8
	Cond.	366				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.1	8.1	8.1	7.9
	O2 ppm	9.7	9.7	8.8	10.2	9.3
	Cond.	376				380
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.9	8.0	8.0	8.0	7.8
	O2 ppm	9.6	9.8	8.7	10.2	9.3
	Cond.	389				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.0	7.9	8.1	8.0
	O2 ppm	9.6	9.6	9.0	10.4	9.4
	Cond.	396				404
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.0	7.9	8.0	7.9
	O2 ppm	9.4	9.6	8.4	10.6	9.4
	Cond.	399				411
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	8.9	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900349

TEST CONDITIONS

Company : Morbern Inc.
Cornwall, ONT
(12580007)
Region : Southeast
Industry : Organic Chemical

Control point : OTCW, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : D. JULIEN
Date Collected : 03/06/90
Received : 03/07/90
Tested : 03/07/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900349

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.9	9.8	9.1	10.6	9.5
	Cond.	346				343
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.2	8.0	8.1	8.0
	O2 ppm	10.0	10.1	9.2	10.4	9.8
	Cond.	367				369
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.8	9.8	9.3	10.6	9.6
	Cond.	377				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	8.1	8.1	8.1	8.0
	O2 ppm	9.7	9.7	9.1	10.6	9.5
	Cond.	389				395
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.1	8.1	8.2	8.1
	O2 ppm	9.6	9.8	8.8	10.4	9.8
	Cond.	396				403
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	8.0	8.0	8.1	8.0
	O2 ppm	9.5	9.6	8.0	10.2	9.7
	Cond.	394				414
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	9.2	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: Morbern Inc., Cornwall
(12580007)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for two trout bioassays, conducted on once through cooling water samples collected between October 1989 and March 1990, were provided by Morbern Incorporated. Both samples of cooling water were determined to have been non-acutely lethal to test fish. Morbern commenced monitoring on February 1, 1990.

OTCW

06900349 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

OTCW

06900351 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

COMPANY: Guardsman Products Ltd., Cornwall (122470008)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Guardsman Products Ltd. of Cornwall commenced the monitoring regulations on February 1, 1990, therefore there is no data for review at this time.

OTCW

OTCW

COMPANY: Guardsman Products Ltd., Cornwall (122470008)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The initiation of acute toxicity monitoring by Guardsman Products Ltd. began on February 1, 1990, therefore no data has been submitted for the period between October 1989 and March 1990.

OTCW

OTCW

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900032

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : OT cooling water, (400)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARIOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	1	10
50	0	8	10	100
65	0	10	10	100
100	0	10	10	100

48 Hour LC50 : 37.0 %

95% fid. limits : 40.4 - 33.9 %

Comments : 100% MORTALITY IN 50% CONCENTRATION.

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06900032

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.2
	O2 ppm	8.8		8.4
	Cond.	379		377
	Temp(C)	20.0	21.0	21.0
10	pH	8.2		8.2
	O2 ppm	9.2		8.4
	Cond.	385		382
	Temp(C)	20.0	21.0	21.0
20	pH	8.2		8.2
	O2 ppm	9.1		8.5
	Cond.	378		381
	Temp(C)	20.0	21.0	21.0
30	pH	8.2		8.2
	O2 ppm	9.2		8.4
	Cond.	374		380
	Temp(C)	20.0	21.0	21.0
50	pH	8.1		8.1
	O2 ppm	9.4		8.3
	Cond.	368		377
	Temp(C)	20.0	21.0	21.0
65	pH	8.1		8.1
	O2 ppm	9.4		8.4
	Cond.	363		373
	Temp(C)	20.0	21.0	21.0
100	pH	8.0		8.1
	O2 ppm	9.5		8.0
	Cond.	356		368
	Temp(C)	20.0	21.0	21.0

TOXICITY TEST REPORT Sample: 06891148

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : OT cooling water, (400)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/27/89
Received : 11/28/89
Tested : 11/28/89 at: 1730

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	1	10
20	0	0	2	20
30	0	6	8	80
50	0	7	9	90
65	0	7	10	100
100	0	10	10	100

48 Hour LC50 : 23.4 %

95% fid. limits : 17.0 - 29.5 %

Comments :

SLOPE of Mortality Curve : 4.5
LC50 Calculated By : PROBIT

TOXICITY TEST PARAMETERS

Sample Number: 06891148

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	7.8		7.8
	O2 ppm	8.7		7.9
	Cond.	360		394
	Temp(C)	20.0	20.0	20.0
10	pH	7.8		8.0
	O2 ppm	8.7		8.4
	Cond.	367		396
	Temp(C)	20.0	20.0	20.0
20	pH	7.8		8.0
	O2 ppm	8.6		7.8
	Cond.	368		400
	Temp(C)	20.0	20.0	20.0
30	pH	7.7		8.0
	O2 ppm	9.1		7.7
	Cond.	368		402
	Temp(C)	20.0	20.0	20.0
50	pH	7.6		7.9
	O2 ppm	8.8		7.3
	Cond.	368		404
	Temp(C)	20.0	20.0	20.0
65	pH	7.5		7.8
	O2 ppm	8.8		6.9
	Cond.	368		406
	Temp(C)	20.0	20.0	20.0
100	pH	7.4		7.8
	O2 ppm	8.3		6.4
	Cond.	371		412
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900389

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : P. HERRIOT
Date Collected : 03/13/90
Received : 03/14/90
Tested : 03/14/90 at: 1420

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : UNSEASONABLE WARM TEMP RESULTED IN ELEVATION

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900389

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.1
	O2 ppm	7.1		5.4
	Cond.	3070		2830
	Temp(C)	21.0	22.0	22.0
65	pH	7.9		8.2
	O2 ppm	7.1		5.5
	Cond.	2190		1971
	Temp(C)	21.0	22.0	22.0
50	pH	7.9		8.1
	O2 ppm	7.5		5.8
	Cond.	1833		1663
	Temp(C)	21.0	22.0	22.0
30	pH	7.9		8.2
	O2 ppm	7.3		6.5
	Cond.	1773		1612
	Temp(C)	21.0	22.0	22.0
20	pH	8.0		8.2
	O2 ppm	7.8		7.2
	Cond.	994		903
	Temp(C)	21.0	22.0	22.0
10	pH	8.0		8.1
	O2 ppm	7.5		7.4
	Cond.	688		648
	Temp(C)	21.0	22.0	22.0
Control	pH	8.1		8.0
	O2 ppm	8.2		7.4
	Cond.	426		433
	Temp(C)	21.0	22.0	22.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900266

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900266

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		7.9
	O2 ppm	8.3		3.0
	Cond.	2610		2490
	Temp(C)	21.0	21.0	21.0
65	pH	7.9		7.9
	O2 ppm	7.9		4.8
	Cond.	1820		1746
	Temp(C)	21.0	21.0	21.0
50	pH	7.9		8.1
	O2 ppm	7.9		6.5
	Cond.	1512		1477
	Temp(C)	21.0	21.0	21.0
30	pH	8.0		8.2
	O2 ppm	8.4		7.2
	Cond.	1087		1072
	Temp(C)	21.0	21.0	21.0
20	pH	8.0		8.2
	O2 ppm	8.0		6.9
	Cond.	870		858
	Temp(C)	21.0	21.0	21.0
10	pH	8.1		8.2
	O2 ppm	8.2		7.7
	Cond.	597		602
	Temp(C)	21.0	21.0	21.0
Control	pH	8.2		7.9
	O2 ppm	8.4		7.4
	Cond.	396		397
	Temp(C)	21.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06900030

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARIOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900030

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.2
	O2 ppm	8.8		8.4
	Cond.	379		377
	Temp(C)	20.0	21.0	21.0
10	pH	8.0		8.3
	O2 ppm	8.8		8.5
	Cond.	621		617
	Temp(C)	20.0	21.0	21.0
20	pH	8.0		8.2
	O2 ppm	8.8		8.2
	Cond.	854		856
	Temp(C)	20.0	21.0	21.0
30	pH	7.9		8.2
	O2 ppm	8.7		8.0
	Cond.	1063		1058
	Temp(C)	20.0	21.0	21.0
50	pH	7.8		8.2
	O2 ppm	8.5		7.6
	Cond.	1465		1441
	Temp(C)	20.0	21.0	21.0
65	pH	7.8		8.2
	O2 ppm	8.4		7.5
	Cond.	1762		1733
	Temp(C)	20.0	21.0	21.0
100	pH	7.8		8.1
	O2 ppm	8.4		6.6
	Cond.	2460		2480
	Temp(C)	20.0	21.0	21.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891273

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 12/12/89
Received : 12/13/89
Tested : 12/13/89 at: 1730

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891273

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.1		8.1
	O2 ppm	8.9		8.6
	Cond.	377		385
	Temp(C)	20.0	20.0	20.0
10	pH	8.0		8.1
	O2 ppm	9.0		8.6
	Cond.	612		596
	Temp(C)	20.0	20.0	20.0
20	pH	7.9		8.2
	O2 ppm	8.8		8.5
	Cond.	889		887
	Temp(C)	20.0	20.0	20.0
30	pH	7.9		8.2
	O2 ppm	8.7		8.3
	Cond.	1077		1029
	Temp(C)	20.0	20.0	20.0
50	pH	7.8		8.3
	O2 ppm	8.7		7.9
	Cond.	1492		1509
	Temp(C)	20.0	20.0	20.0
65	pH	7.8		8.2
	O2 ppm	8.5		7.9
	Cond.	1787		1769
	Temp(C)	20.0	20.0	20.0
100	pH	7.7		8.1
	O2 ppm	8.7		7.7
	Cond.	2560		2460
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06891085

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/14/89
Received : 11/15/89
Tested : 11/15/89 at: 1425

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891085

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
Control	pH	8.2		8.2
	O2 ppm	8.4		8.7
	Cond.	365		360
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.5		8.4
	Cond.	577		557
	Temp(C)	20.0	20.0	20.0
20	pH	7.9		8.0
	O2 ppm	8.5		7.8
	Cond.	808		740
	Temp(C)	20.0	20.0	20.0
30	pH	7.8		8.0
	O2 ppm	8.7		7.5
	Cond.	1057		971
	Temp(C)	20.0	20.0	20.0
50	pH	7.7		7.9
	O2 ppm	8.6		6.6
	Cond.	1414		1265
	Temp(C)	20.0	20.0	20.0
65	pH	7.6		7.8
	O2 ppm	8.9		5.7
	Cond.	1703		1619
	Temp(C)	20.0	20.0	20.0
100	pH	7.5		7.6
	O2 ppm	8.7		3.4
	Cond.	2160		2070
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 06890989

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : ROB EAKINS
Date Collected : 10/10/89
Received : 10/10/89
Tested : 10/10/89 at: 1740

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:40	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06890989

TEST CONC. %		ELAPSED TIME 00:40	24:00	48:00
100	pH	6.9		7.1
	O2 ppm	7.5		7.7
	Cond.	2280		2301
	Temp(C)	20.0	20.0	20.0
65	pH	7.3		7.6
	O2 ppm	7.8		8.2
	Cond.	1672		1663
	Temp(C)	20.0	20.0	20.0
50	pH	7.5		7.7
	O2 ppm	8.0		8.1
	Cond.	1416		1424
	Temp(C)	20.0	20.0	20.0
30	pH	7.9		7.9
	O2 ppm	8.4		8.3
	Cond.	998		1008
	Temp(C)	20.0	20.0	20.0
20	pH	8.0		8.0
	O2 ppm	8.6		8.4
	Cond.	828		838
	Temp(C)	20.0	20.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.7		8.6
	Cond.	598		598
	Temp(C)	20.0	20.0	20.0
Control	pH	8.2		8.1
	O2 ppm	8.7		8.5
	Cond.	356		374
	Temp(C)	20.0	20.0	20.0

GE Plastics Canada Ltd. (continued)

OT cooling water

06891148 sampled: 11/27/89 LC50: 23.4 %
95% fid. limits: 17.0 - 29.5 % slope: 4.5
comments:

06900032 sampled: 01/09/90 LC50: 37.0 %
95% fid. limits: 40.4 - 33.9 %
comments: 100% MORTALITY IN 50% CONCENTRATION.

intake water

COMPANY: GE Plastics Canada Ltd., Cobourg (600007)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

Data for eight Daphnia magna acute lethality toxicity tests conducted on samples of once through cooling water and combined effluent were submitted by G.E. Plastics Canada Ltd. of Cobourg.

The two samples of once through cooling water were toxic to Daphnia with LC50 values 23.4 and 37%.

The six samples of combined effluent tested by the company were not acutely lethal to Daphnia.

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combined effluent

06890989 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

06891085 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

06891273 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

06900030 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900266 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900389 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: UNSEASONABLE WARM TEMP RESULTED IN ELEVATION

storm water

storm water

MISA Trout

TOXICITY TEST REPORT Sample: 06900031

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : OT cooling water, (400)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARIOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900031

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.4	7.7	7.7	7.7	7.6
	O2 ppm	8.9	8.4	9.2	10.1	9.0
	Cond.	363				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	7.8	7.6	7.6	7.6
	O2 ppm	9.0	9.0	9.4	9.7	9.4
	Cond.	361				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.6	7.8	7.7	7.6	7.6
	O2 ppm	9.2	9.3	9.6	9.8	9.5
	Cond.	360				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.7	7.9	7.8	7.6	7.6
	O2 ppm	9.4	9.7	9.5	9.9	9.7
	Cond.	358				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.7	7.9	7.7	7.7	7.6
	O2 ppm	9.7	9.7	9.4	9.8	9.9
	Cond.	356				360
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	7.9	7.8	7.7	7.8
	O2 ppm	9.7	9.7	9.6	9.9	9.9
	Cond.	354				356
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	8.0	7.8	7.7	7.9
	O2 ppm	9.6	9.6	9.5	10.1	9.9
	Cond.	351				345
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06891147

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : OT cooling water, (400)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/27/89
Received : 11/28/89
Tested : 11/28/89 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891147

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.6	7.9	7.9	7.8	7.8
	O2 ppm	8.9	9.1	9.3	9.6	9.0
	Cond.	360				361
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	7.7	7.8	7.7	7.7
	O2 ppm	8.9	8.3	8.6	8.9	8.7
	Cond.	377				371
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.4	7.8	7.9	7.8	7.8
	O2 ppm	9.3	9.3	8.9	9.2	8.7
	Cond.	377				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.4	7.8	7.9	7.7	7.7
	O2 ppm	8.8	8.7	8.4	8.9	8.9
	Cond.	379				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	7.8	7.8	7.7	7.7
	O2 ppm	8.8	8.3	8.2	8.8	8.7
	Cond.	386				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.4	7.7	8.0	7.7	7.7
	O2 ppm	9.1	8.7	8.8	9.1	8.7
	Cond.	390				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.4	7.7	8.0	7.8	7.8
	O2 ppm	9.1	9.1	8.5	8.5	8.8
	Cond.	399				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900388

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : P. HERRIOT
Date Collected : 03/13/90
Received : 03/14/90
Tested : 03/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	100
65	0	10	10	10	10	100
50	0	10	10	10	10	100
30	0	10	10	10	10	100
20	0	5	6	8	9	90
10	0	0	0	0	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : 14.1 %

95% fid. limits : 10.3 - 17.2 %

Comments : 90% MORTALITY IN 20% TEST CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900388

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1	8.4			
	O2 ppm	8.0	8.2			
	Cond.	3070	2920			
	Temp(C)	15.0	15.0			
65	pH	8.0	8.3			
	O2 ppm	8.3	9.2			
	Cond.	2180	2070			
	Temp(C)	15.0	15.0			
50	pH	8.0	8.3			
	O2 ppm	8.7	8.4			
	Cond.	1609	1584			
	Temp(C)	15.0	15.0			
30	pH	7.9	8.2			
	O2 ppm	8.5	8.8			
	Cond.	1104	1124			
	Temp(C)	15.0	15.0			
20	pH	8.0	8.1	8.2	8.4	8.3
	O2 ppm	8.9	8.7	9.3	8.5	9.5
	Cond.	880				882
	Temp(C)	15.0	15.0	15.0	15.0	14.0
10	pH	7.9	8.1	7.9	8.2	8.1
	O2 ppm	8.6	8.3	9.2	8.2	8.4
	Cond.	596				642
	Temp(C)	15.0	15.0	15.0	15.0	14.0
Control	pH	8.0	8.0	7.9	7.9	8.0
	O2 ppm	8.9	8.6	9.1	8.1	9.2
	Cond.	369				392
	Temp(C)	15.0	15.0	15.0	15.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900265

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	100
65	0	10	10	10	10	100
50	0	10	10	10	10	100
30	0	3	5	6	7	70
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 28.1 %

95% fid. limits : 24.6 - 32.1 %

Comments : 70% MORTALITY IN 30% TEST CONCENTRATION

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06900265

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0	8.2			
	O2 ppm	8.4	8.4			
	Cond.	2560	2570			
	Temp(C)	15.0	15.0			
65	pH	8.0	8.3			
	O2 ppm	9.6	9.0			
	Cond.	1773	1834			
	Temp(C)	15.0	15.0			
50	pH	7.9	8.3			
	O2 ppm	9.4	9.0			
	Cond.	1444	1448			
	Temp(C)	15.0	15.0			
30	pH	7.9	8.4	8.5	8.5	8.5
	O2 ppm	9.5	9.1	8.9	9.7	8.9
	Cond.	1044				1108
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.4	8.5	8.2	8.2
	O2 ppm	9.4	9.1	8.8	8.7	8.7
	Cond.	837				892
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	8.4	8.3	8.3	8.3
	O2 ppm	9.2	9.2	8.6	8.8	8.8
	Cond.	604				652
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.8	8.0	8.1	8.0	8.0
	O2 ppm	9.4	9.2	9.3	8.7	8.6
	Cond.	388				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900029

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARIOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	10	10	10	10	100

96 Hour LC50 : 80.6 %

95% fid. limits : 100.0 - 65.0 %

Comments : 100% MORTALITY IN FULL STRENGTH EFFLUENT.

SLOPE of Mortality Curve :
LC50 Calculated By : BINOMIAL

TOXICITY TEST PARAMETERS

Sample Number: 06900029

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.4	7.7	7.7	7.7	7.6
	O2 ppm	8.9	8.4	9.2	10.1	9.0
	Cond.	363				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.7	7.7	7.6	7.5
	O2 ppm	9.5	8.6	9.4	9.2	8.0
	Cond.	560				548
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.7	7.8	7.8	7.6	7.8
	O2 ppm	9.8	8.6	9.3	8.9	9.0
	Cond.	775				776
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.7	7.7	7.8	7.5	7.6
	O2 ppm	9.7	8.7	9.4	8.7	9.3
	Cond.	951				985
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.7	7.9	7.7	7.7	7.6
	O2 ppm	9.8	8.8	9.5	8.4	9.5
	Cond.	1315				1290
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	8.0	7.8	7.8	7.7
	O2 ppm	9.8	8.7	9.6	8.2	9.6
	Cond.	1624				1710
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	8.0			
	O2 ppm	8.9	8.5			
	Cond.	2360	2490			
	Temp(C)	15.0	15.0			

MISA Trout

TOXICITY TEST REPORT Sample: 06891272

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 12/12/89
Received : 12/13/89
Tested : 12/13/89 at: 1715

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	1	1	1	1	10
50	0	10	10	10	10	100
65	0	10	10	10	10	100
100	0	10	10	10	10	100

96 Hour LC50 : 37.0 %

95% fid. limits : 33.9 - 40.3 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06891272

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.8	7.9	7.9	8.0	8.0
	O2 ppm	9.5	8.4	9.2	8.9	9.0
	Cond.	358				341
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.1	8.1	8.1	8.1
	O2 ppm	9.3	8.2	8.7	8.9	8.7
	Cond.	550				585
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.2	8.2	8.2	8.2
	O2 ppm	8.9	8.8	8.6	8.9	8.9
	Cond.	773				769
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	8.2	8.2	8.1	8.2
	O2 ppm	9.1	8.8	8.7	8.7	8.6
	Cond.	1020				1052
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.4			
	O2 ppm	9.4	9.3			
	Cond.	1386	1596			
	Temp(C)	15.0	15.0			
65	pH	7.8	8.0			
	O2 ppm	8.8	8.3			
	Cond.	1643	1890			
	Temp(C)	15.0	15.0			
100	pH	7.8	8.1			
	O2 ppm	9.0	8.8			
	Cond.	2430	2540			
	Temp(C)	15.0	15.0			

MISA Trout

TOXICITY TEST REPORT Sample: 06891084

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/14/89
Received : 11/15/89
Tested : 11/15/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	3	3	4	4	40
65	0	10	10	10	10	100
100	0	10	10	10	10	100

96 Hour LC50 : 49.9 %

95% fid. limits : 43.7 - 56.9 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : SPEARMAN KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06891084

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
Control	pH	7.3	8.2	8.1	8.0	8.0
	O2 ppm	8.8	8.8	9.4	10.2	10.0
	Cond.	367				334
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	8.2	8.2	8.0	8.1
	O2 ppm	8.5	8.8	10.0	10.0	8.4
	Cond.	576				550
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.6	8.3	8.2	8.0	8.2
	O2 ppm	9.3	8.7	10.4	10.0	8.9
	Cond.	816				801
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.6	8.1	8.2	8.0	8.2
	O2 ppm	8.9	8.3	10.1	10.3	9.0
	Cond.	1013				979
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.6	8.2	8.2	8.0	8.2
	O2 ppm	8.9	8.2	10.0	10.2	9.4
	Cond.	1431				1308
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.6	8.2			
	O2 ppm	8.8	8.3			
	Cond.	1797				
	Temp(C)	15.0	15.0			
100	pH	7.5	7.9			
	O2 ppm	8.8	8.2			
	Cond.	2530				
	Temp(C)	15.0	15.0			

MISA Trout

TOXICITY TEST REPORT Sample: 06890988

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : ROB EAKINS
Date Collected : 10/10/89
Received : 10/10/89
Tested : 10/10/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890988

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	6.9	7.4	7.5	7.5	7.8
	O2 ppm	8.2	9.2	9.4	9.2	9.0
	Cond.	2400				2250
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.2	7.6	7.7	7.6	7.9
	O2 ppm	8.4	9.0	8.7	8.7	9.1
	Cond.	1763				1724
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.3	7.8	7.9	7.8	7.9
	O2 ppm	8.7	9.0	9.0	9.7	9.2
	Cond.	1442				1396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.4	7.9	7.9	7.9	7.9
	O2 ppm	8.9	9.1	9.4	9.7	9.4
	Cond.	1073				986
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.4	7.7	7.9	7.8	7.9
	O2 ppm	9.1	9.0	9.2	8.9	9.3
	Cond.	849				802
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	8.0	7.9	7.1	8.0
	O2 ppm	8.8	9.3	9.4	9.7	9.1
	Cond.	585				541
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.9	7.8	7.9	8.0
	O2 ppm	9.3	8.9	8.4	8.9	9.2
	Cond.	347				348
	Temp(C)	15.0	15.0	15.0	15.0	15.0

GE Plastics Canada Ltd. (continued)

storm water

storm water

OT cooling water

06891147 sampled: 11/27/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

06900031 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

intake water

COMPANY: GE Plastics Canada Ltd., Cobourg (600007)
SECTOR: Organic Chemical
REGION: Central

SUMMARY
The data for eight trout bioassays, conducted on combined effluent and once through cooling water samples collected between October 1989 and March 1990, were provided by GE Plastics Canada Limited. Five of the six combined effluent samples were determined to have been acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 49.9 % (November), 37.0 % (December), 80.6 % (January), 28.1 % (February) and 14.1 % (March). The other two combined effluent samples were determined to have been non-acutely lethal. Two samples of once through cooling water were determined to have been non-acutely lethal.

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combined effluent

06890988 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

06891084 sampled: 11/14/89 LC50: 49.9 %
95% fid. limits: 43.7 - 56.9 %
comments:

06891272 sampled: 12/12/89 LC50: 37.0 %
95% fid. limits: 33.9 - 40.3 %
comments:

06900029 sampled: 01/09/90 LC50: 80.6 %
95% fid. limits: 100.0 - 65.0 %
comments: 100% MORTALITY IN FULL STRENGTH EFFLUENT.

06900265 sampled: 02/13/90 LC50: 28.1 %
95% fid. limits: 24.6 - 32.1 %
comments: 70% MORTALITY IN 30% TEST CONCENTRATION

06900388 sampled: 03/13/90 LC50: 14.1 %
95% fid. limits: 10.3 - 17.2 %
comments: 90% MORTALITY IN 20% TEST CONCENTRATION

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900054

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Fergusson
Date Collected : 03/13/90
Received : 03/13/90
Tested : 03/13/90 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	1	8
13	0	4	33
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900054

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.3	7.7
	O2 ppm	10.2	9.1
	Cond.	2540	2510
	Temp(C)	20.0	20.0
50	pH	7.6	8.0
	O2 ppm	9.5	9.0
	Cond.	1520	1520
	Temp(C)	20.0	20.0
26	pH	7.8	8.0
	O2 ppm	9.5	9.0
	Cond.	1020	1020
	Temp(C)	20.0	20.0
13	pH	8.0	8.2
	O2 ppm	9.4	9.0
	Cond.	780	710
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	8.4	8.9
	Cond.	620	605
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	10.0	8.9
	Cond.	500	520
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900032

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1710

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900032

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.1	7.6
	O2 ppm	10.2	8.1
	Cond.	2100	2180
	Temp(C)	20.0	20.0
50	pH	7.7	8.0
	O2 ppm	9.8	8.2
	Cond.	1300	1310
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.3	8.1
	Cond.	920	950
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	9.2	8.6
	Cond.	710	720
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.2	8.9
	Cond.	595	610
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.2	9.2
	Cond.	480	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900018

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Duplicate Tested

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900018

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	7.9
	O2 ppm	10.5	9.2
	Cond.	630	690
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.6	9.2
	Cond.	590	600
	Temp(C)	20.0	20.0
26	pH	8.2	8.1
	O2 ppm	9.3	9.2
	Cond.	525	530
	Temp(C)	20.0	20.0
13	pH	8.2	8.1
	O2 ppm	9.2	9.1
	Cond.	515	510
	Temp(C)	20.0	20.0
6	pH	8.2	8.1
	O2 ppm	9.2	9.2
	Cond.	510	505
	Temp(C)	20.0	20.0
Control	pH	8.2	8.1
	O2 ppm	9.2	9.3
	Cond.	488	498
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890125

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/12/89 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890125

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.0	7.2
	O2 ppm	9.6	9.2
	Cond.	1590	1540
	Temp(C)	20.0	20.0
50	pH	7.2	7.6
	O2 ppm	9.6	9.1
	Cond.	1030	1010
	Temp(C)	20.0	20.0
26	pH	7.4	7.8
	O2 ppm	9.5	9.3
	Cond.	790	790
	Temp(C)	20.0	20.0
13	pH	7.6	7.9
	O2 ppm	9.5	9.3
	Cond.	640	610
	Temp(C)	20.0	20.0
6	pH	7.8	8.0
	O2 ppm	9.5	9.4
	Cond.	580	530
	Temp(C)	20.0	20.0
Control	pH	8.0	8.0
	O2 ppm	9.5	9.5
	Cond.	470	480
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890105

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/14/89 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:10	TOTAL MORTALITY %
100	0	12	100
50	0	2	16
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	2	16

48 Hour LC50 : INVALID

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve : 2.1
LC50 Calculated By : probit

TOXICITY TEST PARAMETERS

Sample Number: 05890105

TEST CONC. %		ELAPSED TIME 00:00	48:10
100	pH	7.7	7.9
	O2 ppm	9.7	8.8
	Cond.	2700	2810
	Temp(C)	20.0	20.0
50	pH	7.9	8.1
	O2 ppm	9.4	8.6
	Cond.	1620	1640
	Temp(C)	20.0	20.0
26	pH	8.0	8.1
	O2 ppm	9.2	8.6
	Cond.	1090	1090
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.3	8.9
	Cond.	790	795
	Temp(C)	20.0	20.0
6	pH	8.1	8.3
	O2 ppm	9.4	9.3
	Cond.	605	605
	Temp(C)	20.0	20.0
Control	pH	7.9	8.3
	O2 ppm	9.7	9.2
	Cond.	480	485
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890084

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/10/89
Received : 10/10/89
Tested : 10/10/89 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:05	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890084

TEST CONC. %		ELAPSED TIME 00:00	48:05
100	pH	8.9	8.1
	O2 ppm	9.6	9.0
	Cond.	1140	1210
	Temp(C)	20.0	20.0
50	pH	8.5	8.0
	O2 ppm	9.4	9.1
	Cond.	890	890
	Temp(C)	20.0	20.0
26	pH	8.3	8.0
	O2 ppm	9.4	9.0
	Cond.	680	700
	Temp(C)	20.0	20.0
13	pH	8.2	8.0
	O2 ppm	9.2	9.1
	Cond.	600	610
	Temp(C)	20.0	20.0
6	pH	8.2	8.0
	O2 ppm	9.2	9.0
	Cond.	560	595
	Temp(C)	20.0	20.0
Control	pH	8.0	7.9
	O2 ppm	9.6	9.2
	Cond.	500	510
	Temp(C)	20.0	20.0

Ethyl Canada Inc. (continued)

process effluent

storm water

storm water

storm water

rain gauge

intake water

COMPANY: Ethyl Canada Inc., Corunna (120006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for six Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 was submitted by Ethyl Canada Inc. of Corunna. Two of the six samples were not acutely lethal to Daphnia. One sample generated an unusual toxicity response in which the highest mortalities occurred in the middle concentrations of effluent.

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combined effluent

05890084 sampled: 10/10/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890105 sampled: 11/14/89 LC50: INVALID
95% fid. limits: 0.0 - 0.0 % slope:
comments:

05890125 sampled: 12/12/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900018 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Duplicate Tested

05900032 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900054 sampled: 03/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

MISA Trout

TOXICITY TEST REPORT Sample: 05900054

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/13/90
Received : 03/13/90
Tested : 03/14/90 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:10	47:30	71:20	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900054

TEST CONC. %		ELAPSED TIME 00:00	25:10 47:30 71:20 96:00
100	pH	7.1	7.5
	O2 ppm	10.0	9.2
	Cond.	2190	2150
	Temp(C)	15.0	15.0
100	pH	7.1	7.5
	O2 ppm	10.1	9.4
	Cond.	2180	2180
	Temp(C)	15.0	15.0
Control	pH	7.4	7.7
	O2 ppm	10.2	9.3
	Cond.	176	178
	Temp(C)	15.0	15.0
Control	pH	7.4	7.7
	O2 ppm	10.2	9.5
	Cond.	177	178
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900032

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	25:00	43:00	67:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900032

TEST CONC. %		ELAPSED TIME 00:00	25:00	43:00	67:00	96:00
100	pH	7.0				7.7
	O2 ppm	9.8				9.0
	Cond.	1950				2010
	Temp(C)	15.0				15.0
100	pH	7.0				7.8
	O2 ppm	9.7				9.0
	Cond.	1910				2000
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.0				9.6
	Cond.	158				175
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.2				9.6
	Cond.	160				175
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900018

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:00	45:30	76:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900018

TEST CONC. %		ELAPSED TIME 00:00	21:00	45:30	76:00	96:00
100	pH	7.7	7.6	7.8	7.7	7.6
	O2 ppm	12.4	8.5	8.8	9.2	9.4
	Cond.	650				620
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.6	7.8	7.7	7.6
	O2 ppm	12.4	8.8	8.9	9.0	9.6
	Cond.	600				600
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.6	7.5	7.4
	O2 ppm	10.0	8.7	9.0	9.4	9.2
	Cond.	181				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.5	7.5	7.4
	O2 ppm	10.0	8.5	8.7	9.2	9.0
	Cond.	180				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890125

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	18:00	41:00	65:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890125

TEST CONC. %		ELAPSED TIME 00:00	18:00	41:00	65:00	96:00
100	pH	6.7	7.1	7.4	7.5	7.5
	O2 ppm	10.3	9.0	9.2	9.3	9.2
	Cond.	1400				1460
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.9	7.2	7.6	7.6	7.6
	O2 ppm	10.6	9.2	9.4	9.4	9.3
	Cond.	1100				1140
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.2	7.4	7.7	7.6	7.7
	O2 ppm	11.2	9.4	9.5	9.4	9.4
	Cond.	900				920
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.4	7.5	7.7	7.7	7.8
	O2 ppm	11.5	9.3	9.4	9.4	9.3
	Cond.	490				540
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	7.6	7.8	7.7	7.9
	O2 ppm	11.6	9.6	9.5	9.4	8.9
	Cond.	284				298
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.7	7.6	7.8	7.7	8.0
	O2 ppm	11.5	9.6	9.6	9.6	9.3
	Cond.	165				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.8	7.9	8.0
	O2 ppm	11.4	9.8	9.9	9.8	9.6
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.9	7.9	8.0
	O2 ppm	11.5	9.8	10.0	9.6	9.6
	Cond.	165				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890105

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)

Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/14/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	45:10	69:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890105

TEST CONC. %		ELAPSED TIME 00:00	23:10	45:10	69:10	96:00
100	pH	7.5	7.7	7.7	7.7	7.8
	O2 ppm	10.4	8.7	9.2	9.5	9.4
	Cond.	2650				2680
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.7	7.7	7.7	7.8
	O2 ppm	10.1	8.8	9.4	9.9	9.7
	Cond.	2110				2040
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.7	7.7	7.8	7.9
	O2 ppm	10.0	9.0	9.6	10.4	10.0
	Cond.	1190				1110
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.7	7.7	7.8	7.8
	O2 ppm	9.7	9.2	9.4	10.3	9.9
	Cond.	900				890
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.7	7.7	7.8	7.8
	O2 ppm	9.8	9.0	9.3	10.1	10.0
	Cond.	510				510
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.7	7.8	7.8
	O2 ppm	9.7	9.0	9.3	10.0	9.4
	Cond.	190				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	10.0	9.9	9.9	10.4	10.2
	Cond.	169				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.8	7.6
	O2 ppm	9.8	9.9	9.8	10.0	9.9
	Cond.	169				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890084

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/10/89
Received : 10/10/89
Tested : 10/11/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	45:30	76:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890084

TEST CONC. %		ELAPSED TIME 00:00	24:00	45:30	76:00	96:00
100	pH	9.0	8.2	7.7	7.6	7.5
	O2 ppm	9.8	8.8	8.2	8.6	8.5
	Cond.	1100				1100
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	8.7	7.9	7.6	7.6	7.5
	O2 ppm	9.4	8.1	8.1	8.8	8.5
	Cond.	820				870
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	9.1	7.7	7.5	7.5	7.4
	O2 ppm	9.0	8.6	8.2	8.3	8.2
	Cond.	600				610
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.4	7.7	7.5	7.5	7.5
	O2 ppm	8.4	9.4	8.9	8.2	9.0
	Cond.	380				390
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.5	7.4	7.4	7.3
	O2 ppm	8.0	8.7	8.3	8.5	8.2
	Cond.	240				250
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.1	7.4	7.3	7.4	7.3
	O2 ppm	8.0	8.1	7.6	8.0	7.8
	Cond.	180				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.4	7.3	7.3	7.2
	O2 ppm	8.0	9.2	8.5	8.8	9.0
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.4	7.3	7.3	7.3
	O2 ppm	7.8	9.2	8.5	8.9	8.8
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0

storm water

storm water

rain gauge

intake water

COMPANY: Ethyl Canada Inc., Corunna (120006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 to March 1990, were provided by Ethyl Canada Incorporated. All six samples of combined effluent collected from control point 0100 were determined to have been non-acutely lethal to test fish.

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combined effluent

05890084 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890105 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890125 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900018 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900032 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900054 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

process effluent

storm water

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900051

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/07/90 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:05	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900051

TEST CONC. %		ELAPSED TIME 00:00	48:05
100	pH	8.0	7.7
	O2 ppm	8.8	6.5
	Cond.	250	250
	Temp(C)	20.0	20.0
50	pH	8.3	8.1
	O2 ppm	8.8	8.2
	Cond.	388	382
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	9.0	8.4
	Cond.	450	440
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.0	9.0
	Cond.	482	470
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.0	9.2
	Cond.	498	480
	Temp(C)	20.0	20.0
Control	pH	8.4	8.4
	O2 ppm	9.2	9.3
	Cond.	500	492
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900025

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Fergusson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/07/90 at: 1540

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	12	100
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 70.7 %

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900025

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.2	7.6
	O2 ppm	9.1	5.2
	Cond.	302	310
	Temp(C)	20.0	20.0
50	pH	8.2	7.8
	O2 ppm	9.0	7.0
	Cond.	418	410
	Temp(C)	20.0	20.0
26	pH	8.2	8.1
	O2 ppm	8.8	8.4
	Cond.	464	450
	Temp(C)	20.0	20.0
13	pH	8.2	8.1
	O2 ppm	8.8	9.0
	Cond.	490	495
	Temp(C)	20.0	20.0
6	pH	8.2	8.1
	O2 ppm	8.8	9.1
	Cond.	498	500
	Temp(C)	20.0	20.0
Control	pH	8.3	8.1
	O2 ppm	8.8	9.0
	Cond.	510	510
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900011

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:15	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900011

TEST CONC. %	ELAPSED TIME	00:00	48:15
100	pH	7.9	7.6
	O2 ppm	8.0	5.8
	Cond.	244	220
	Temp(C)	20.0	20.0
50	pH	8.1	7.8
	O2 ppm	9.0	6.5
	Cond.	364	387
	Temp(C)	20.0	20.0
26	pH	8.2	8.0
	O2 ppm	9.0	8.2
	Cond.	432	445
	Temp(C)	20.0	20.0
13	pH	8.3	8.1
	O2 ppm	9.0	9.0
	Cond.	460	471
	Temp(C)	20.0	20.0
6	pH	8.3	8.0
	O2 ppm	9.0	9.3
	Cond.	470	481
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.5	9.7
	Cond.	490	480
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890128

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/16/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:30	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
1	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890128

TEST CONC. %		ELAPSED TIME 00:00	48:30
100	pH	7.8	8.1
	O2 ppm	9.4	8.8
	Cond.	200	205
	Temp(C)	20.0	20.0
50	pH	8.0	8.3
	O2 ppm	9.3	8.8
	Cond.	355	350
	Temp(C)	20.0	20.0
26	pH	8.1	8.4
	O2 ppm	9.3	8.9
	Cond.	430	420
	Temp(C)	20.0	20.0
13	pH	8.1	4.0
	O2 ppm	9.3	9.1
	Cond.	460	460
	Temp(C)	20.0	20.0
1	pH	8.1	8.4
	O2 ppm	9.2	9.0
	Cond.	480	475
	Temp(C)	20.0	20.0
Control	pH	8.0	8.2
	O2 ppm	9.3	9.4
	Cond.	490	488
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890120

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:05	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890120

TEST CONC. %		ELAPSED TIME 00:00	48:05
100	pH	7.9	7.6
	O2 ppm	8.0	7.3
	Cond.	242	258
	Temp(C)	20.0	20.0
50	pH	8.0	7.8
	O2 ppm	8.4	8.2
	Cond.	372	386
	Temp(C)	20.0	20.0
26	pH	8.0	8.0
	O2 ppm	8.5	8.6
	Cond.	432	440
	Temp(C)	20.0	20.0
13	pH	8.0	8.0
	O2 ppm	8.6	8.9
	Cond.	466	466
	Temp(C)	20.0	20.0
6	pH	8.0	8.1
	O2 ppm	8.7	9.0
	Cond.	480	482
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	8.9	9.8
	Cond.	498	505
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890092

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:25	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890092

TEST CONC. %		ELAPSED TIME 00:00	48:25
100	pH	8.0	7.6
	O2 ppm	9.6	7.2
	Cond.	215	217
	Temp(C)	20.0	20.0
50	pH	8.1	7.8
	O2 ppm	8.3	7.1
	Cond.	370	352
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	8.4	7.8
	Cond.	440	420
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	8.4	7.8
	Cond.	450	450
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	8.4	8.4
	Cond.	485	550
	Temp(C)	20.0	20.0
Control	pH	7.9	8.2
	O2 ppm	8.8	9.0
	Cond.	495	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900050

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Road
Sampled By : T.Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/07/90 at: 1505

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:35	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900050

TEST CONC. %		ELAPSED TIME 00:00	48:35
100	pH	8.0	8.0
	O2 ppm	11.0	9.5
	Cond.	208	215
	Temp(C)	20.0	20.0
50	pH	8.3	8.3
	O2 ppm	9.8	9.4
	Cond.	368	355
	Temp(C)	20.0	20.0
26	pH	8.3	8.3
	O2 ppm	9.4	9.4
	Cond.	440	430
	Temp(C)	20.0	20.0
13	pH	8.4	8.4
	O2 ppm	9.4	9.4
	Cond.	472	460
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	9.2	9.3
	Cond.	490	478
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.2	9.3
	Cond.	500	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900027

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Fergusson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/07/90 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900027

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.9
	O2 ppm	10.2	9.2
	Cond.	200	212
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.4	9.1
	Cond.	362	368
	Temp(C)	20.0	20.0
26	pH	8.2	8.1
	O2 ppm	9.1	9.0
	Cond.	434	435
	Temp(C)	20.0	20.0
13	pH	8.2	8.1
	O2 ppm	9.0	9.0
	Cond.	470	465
	Temp(C)	20.0	20.0
6	pH	8.2	8.1
	O2 ppm	8.8	9.0
	Cond.	500	500
	Temp(C)	20.0	20.0
Control	pH	8.3	8.1
	O2 ppm	8.8	9.1
	Cond.	510	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900010

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900010

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.9
	O2 ppm	11.0	9.0
	Cond.	200	210
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.8	9.2
	Cond.	348	362
	Temp(C)	20.0	20.0
26	pH	8.2	8.3
	O2 ppm	9.6	9.2
	Cond.	422	418
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	9.4	9.2
	Cond.	458	465
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.4	9.3
	Cond.	478	478
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.5	9.5
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890129

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1645

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890129

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.8
	O2 ppm	9.3	6.8
	Cond.	214	235
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	9.3	7.8
	Cond.	356	370
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.3	8.0
	Cond.	420	435
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.4	8.4
	Cond.	448	470
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	9.4	8.8
	Cond.	462	485
	Temp(C)	20.0	20.0
Control	pH	8.1	8.3
	O2 ppm	9.4	9.2
	Cond.	488	492
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890119

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890119

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.9
	O2 ppm	9.8	9.0
	Cond.	188	195
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	9.0	9.0
	Cond.	348	350
	Temp(C)	20.0	20.0
26	pH	8.0	8.0
	O2 ppm	8.7	9.1
	Cond.	420	439
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	8.6	8.9
	Cond.	453	460
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	8.6	8.8
	Cond.	480	482
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	8.9	8.8
	Cond.	498	510
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890093

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:15	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890093

TEST CONC. %		ELAPSED TIME 00:00	48:15
100	pH	8.0	8.0
	O2 ppm	9.8	8.6
	Cond.	198	205
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.0	8.6
	Cond.	360	358
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.1	8.6
	Cond.	432	429
	Temp(C)	20.0	20.0
13	pH	8.1	8.3
	O2 ppm	9.0	8.5
	Cond.	475	465
	Temp(C)	20.0	20.0
6	pH	8.1	8.3
	O2 ppm	9.1	8.2
	Cond.	495	480
	Temp(C)	20.0	20.0
Control	pH	7.9	8.3
	O2 ppm	8.8	9.0
	Cond.	490	490
	Temp(C)	20.0	20.0

Esso Chemical Canada (continued)

process effluent

combined effluent

05890092 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890120 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890128 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900011 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900025 sampled: 02/07/90 LC50: 70.7 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900051 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

COMPANY: Esso Chemical Canada, Sarnia (70201) (now with Sarna Chemical Plant)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for thirteen Daphnia magna acute lethality toxicity tests conducted on samples of intake water and combined effluent collected between October 1989 and March 1990 were submitted by Esso Chemical Canada of Sarnia. All six samples of intake water were not acutely lethal to Daphnia.

Six of seven samples of final effluent were not acutely lethal to Daphnia. One sample collected in February appears to have been tested in duplicate. One test indicated the sample was toxic with a 48 h LC50 = 70.7%, while the other test was nonlethal.

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intake water

05890093 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890119 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890129 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900010 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900027 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900050 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

MISA Trout

TOXICITY TEST REPORT Sample: 05900051

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/08/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:00	47:00	71:00	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900051

TEST CONC. %		ELAPSED TIME 00:00	96:15
100	pH	7.6	7.6
	O2 ppm	8.1	8.5
	Cond.	200	202
	Temp(C)	15.0	15.0
100	pH	7.6	7.6
	O2 ppm	8.3	8.6
	Cond.	205	205
	Temp(C)	15.0	15.0
Control	pH	7.4	7.5
	O2 ppm	10.3	9.4
	Cond.	160	175
	Temp(C)	15.0	15.0
Control	pH	7.4	7.5
	O2 ppm	10.4	9.3
	Cond.	162	174
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900025

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:00	45:00	73:30	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900025

TEST CONC. %		ELAPSED TIME 00:00	23:00	45:00	73:30	97:00
100	pH	8.2	7.6	7.6	7.5	7.6
	O2 ppm	9.4	9.6	9.0	8.2	7.2
	Cond.	250				255
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.2	7.6	7.6	7.6	7.7
	O2 ppm	9.4	9.7	8.9	8.4	8.2
	Cond.	251				255
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.6	7.7	7.6
	O2 ppm	10.2	10.0	9.8	9.8	9.6
	Cond.	166				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.6	7.7	7.6
	O2 ppm	10.2	10.0	9.9	9.8	9.6
	Cond.	166				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900011

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/11/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	54:00	79:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900011

TEST CONC. %		ELAPSED TIME 00:00	23:10	54:00	79:10	96:00
100	pH	7.5	7.4	7.6	7.4	7.4
	O2 ppm	7.0	6.4	7.0	7.5	7.9
	Cond.	211				222
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.5	7.4	7.6	7.7	7.5
	O2 ppm	7.2	6.5	6.9	7.8	8.3
	Cond.	212				222
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.7	7.4	7.4
	O2 ppm	10.2	8.0	8.2	8.0	8.2
	Cond.	168				166
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.4	7.6	7.4	7.4
	O2 ppm	10.2	7.8	7.8	8.0	8.2
	Cond.	169				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890128

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/14/89 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:25	46:25	75:25	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890128

TEST CONC. %		ELAPSED TIME 00:00	23:25	46:25	75:25	96:00
100	pH	7.6	7.7	7.6	7.8	7.8
	O2 ppm	9.6	9.1	8.4	9.4	8.9
	Cond.	181				199
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.8	7.7	7.8	7.8
	O2 ppm	10.6	9.6	8.5	8.9	8.8
	Cond.	175				191
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.6	7.8	7.7	7.9	7.8
	O2 ppm	11.4	10.0	9.2	8.8	8.8
	Cond.	176				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.5	7.8	7.8	7.8	7.8
	O2 ppm	11.8	9.9	9.1	9.4	9.2
	Cond.	172				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	7.8	7.8	7.8	7.8
	O2 ppm	12.0	10.2	9.0	9.1	9.1
	Cond.	169				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.6	7.8	7.8	7.9	7.8
	O2 ppm	12.0	10.3	9.2	9.1	9.0
	Cond.	168				179
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.8	7.8	7.8
	O2 ppm	11.9	10.3	9.6	9.4	9.2
	Cond.	164				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.8	7.8	7.8
	O2 ppm	12.0	10.3	9.8	9.3	9.0
	Cond.	164				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890120

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:55	48:25	72:55	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890120

TEST CONC. %		ELAPSED TIME 00:00	21:55	48:25	72:55	96:55
100	pH	7.8	7.7	7.6	7.6	7.6
	O2 ppm	8.6	8.5	7.5	8.9	9.4
	Cond.	221				221
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.6	7.7	7.7	7.6
	O2 ppm	8.9	8.4	7.4	9.0	9.4
	Cond.	211				211
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.6	7.7	7.6	7.5
	O2 ppm	9.1	8.2	7.0	9.0	9.6
	Cond.	200				201
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.6	7.7	7.7	7.6
	O2 ppm	9.5	9.1	8.8	9.8	9.8
	Cond.	181				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.7	7.7	7.7	7.6
	O2 ppm	9.6	8.9	8.9	9.9	9.8
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.7	7.7	7.7	7.6
	O2 ppm	9.8	9.1	9.1	9.8	9.5
	Cond.	170				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.8	7.7	7.7	7.5
	O2 ppm	10.2	10.0	9.2	10.0	9.8
	Cond.	165				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.7	7.7	7.7	7.5
	O2 ppm	10.2	9.8	9.1	10.1	10.0
	Cond.	170				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890092

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	20:00	44:00	68:00	96:30	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890092

TEST CONC. %		ELAPSED TIME 00:00	20:00	44:00	68:00	96:30
100	pH	7.6	7.4	7.4	7.3	7.5
	O2 ppm	7.8	6.6	6.2	7.8	7.8
	Cond.	186				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.3	7.3	7.5	7.3	7.5
	O2 ppm	8.3	4.8	5.1	5.2	7.8
	Cond.	183				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.2	7.4	7.5	7.5	7.5
	O2 ppm	8.3	6.6	6.6	8.3	8.2
	Cond.	180				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.4	7.5	7.5	7.5
	O2 ppm	8.6	7.5	7.4	8.0	8.8
	Cond.	178				179
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.4	7.5	7.5	7.5
	O2 ppm	8.8	7.8	7.1	7.4	8.0
	Cond.	174				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.1	7.4	7.5	7.5	7.5
	O2 ppm	8.7	8.3	8.0	8.0	9.0
	Cond.	170				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.3	7.3	7.4
	O2 ppm	8.8	8.2	7.6	8.2	8.6
	Cond.	176				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.3	7.3	7.4
	O2 ppm	8.6	7.6	7.9	7.9	8.6
	Cond.	172				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900050

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/08/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:00	47:00	71:00	96:15	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900050

TEST CONC. %		ELAPSED TIME 00:00	23:00	47:00	71:00	96:15
100	pH	7.7				7.8
	O2 ppm	11.4				9.2
	Cond.	165				172
	Temp(C)	15.0				15.0
100	pH	7.7				7.8
	O2 ppm	11.6				9.3
	Cond.	165				172
	Temp(C)	15.0				15.0
Control	pH	7.4				7.5
	O2 ppm	10.3				9.4
	Cond.	160				175
	Temp(C)	15.0				15.0
Control	pH	7.4				7.5
	O2 ppm	10.4				9.3
	Cond.	162				174
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900027

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:00	45:00	73:30	97:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900027

TEST CONC. %		ELAPSED TIME 00:00	23:00	45:00	73:30	97:00
100	pH	7.7	7.6	7.7	7.8	7.7
	O2 ppm	11.2	9.9	9.7	9.6	9.8
	Cond.	168				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.6	7.8	7.8	7.8
	O2 ppm	11.3	10.0	9.9	9.6	9.7
	Cond.	162				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.6	7.7	7.6
	O2 ppm	10.2	10.0	9.9	9.8	9.6
	Cond.	166				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.6	7.7	7.6
	O2 ppm	10.2	10.0	9.9	9.8	9.6
	Cond.	166				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900010

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/11/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:10	54:00	79:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900010

TEST CONC. %		ELAPSED TIME 00:00	23:10	54:00	79:10	96:00
100	pH	7.6	7.4	7.6	7.4	7.4
	O2 ppm	11.3	7.5	7.9	8.1	8.2
	Cond.	163				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.6	7.5	7.6	7.4	7.5
	O2 ppm	11.4	7.6	7.7	8.0	8.0
	Cond.	164				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.7	7.4	7.4
	O2 ppm	11.2	8.0	8.2	8.0	8.2
	Cond.	168				166
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.4	7.6	7.3	7.4
	O2 ppm	10.2	7.8	7.6	8.0	8.2
	Cond.	169				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890129

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/14/89 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:25	46:25	75:25	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890129

TEST CONC. %		ELAPSED TIME 00:00	23:25	46:25	75:25	96:00
100	pH	7.7	7.7	7.7	7.8	7.9
	O2 ppm	11.8	9.6	9.6	8.8	8.8
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.6	7.8	7.9	7.9
	O2 ppm	11.6	9.8	9.6	9.3	8.9
	Cond.	171				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.8	7.8	7.8
	O2 ppm	11.9	10.3	9.6	9.4	9.2
	Cond.	164				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.8	7.8	7.8
	O2 ppm	12.0	10.3	9.8	9.3	9.0
	Cond.	164				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890119

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:55	48:25	71:55	96:55	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890119

TEST CONC. %		ELAPSED TIME 00:00	21:55	48:25	71:55	96:55
100	pH	7.8	7.8	7.7	7.7	7.5
	O2 ppm	11.1	9.8	9.0	9.8	9.4
	Cond.	160				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.8	7.7	7.7	7.5
	O2 ppm	11.1	9.6	9.5	9.7	9.4
	Cond.	161				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.8	7.7	7.7	7.5
	O2 ppm	10.0	10.0	9.2	10.0	9.8
	Cond.	165				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.7	7.7	7.7	7.5
	O2 ppm	10.2	9.8	9.1	10.1	10.0
	Cond.	170				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890093

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1345

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	20:25	45:25	68:55	97:25	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890093

TEST CONC. %		ELAPSED TIME 00:00	20:25	45:25	68:55	97:25
100	pH	7.9	7.5	7.6	7.5	7.5
	O2 ppm	10.5	7.5	8.6	8.6	9.8
	Cond.	170				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.4	7.3	7.3	7.5
	O2 ppm	10.6	7.7	6.1	6.1	6.3
	Cond.	170				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.3	7.3	7.4
	O2 ppm	8.8	7.2	7.6	8.2	8.6
	Cond.	175				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.3	7.3	7.4
	O2 ppm	8.6	7.6	7.5	7.9	8.6
	Cond.	172				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0

Esso Chemical Canada (continued)

05890128 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900011 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900025 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900051 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

COMPANY: Esso Chemical Canada, Sarnia (70201)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY
The data for twelve trout bioassays, conducted on combined effluent and intake water samples collected between October 1989 and March 1990, were provided by Esso Chemical Canada. All six combined effluent (control point 0300) samples and six intake water samples were determined to have been non-acutely lethal to test fish.

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intake water

05890093 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890119 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890129 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900010 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900027 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900050 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

combined effluent

05890092 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890120 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900250

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical

Control point : Combined Effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 03/27/90
Received : 03/28/90
Tested : 03/28/90 at: 1615

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	8
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900250

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.0
	O2 ppm	9.7		8.4
	Cond.	355		360
	Temp(C)	19.5	20.0	20.0
50	pH	8.0		8.1
	O2 ppm	9.4		8.4
	Cond.	330		331
	Temp(C)	19.5	20.0	20.0
25	pH	8.1		8.2
	O2 ppm	9.3		8.5
	Cond.	316		317
	Temp(C)	19.5	20.0	20.0
13	pH	8.1		8.2
	O2 ppm	9.3		8.6
	Cond.	309		310
	Temp(C)	19.5	20.0	20.0
6	pH	8.1		8.2
	O2 ppm	9.6		8.6
	Cond.	296		308
	Temp(C)	19.5	20.0	20.0
Control	pH	8.1		8.3
	O2 ppm	8.9		8.6
	Cond.	301		305
	Temp(C)	19.5	20.0	20.0

TOXICITY TEST REPORT Sample: 03900157

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical

Control point : Combined Effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 02/27/90
Received : 02/28/90
Tested : 03/01/90 at: 1010

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900157

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.2		8.4
	Cond.	380		377
	Temp(C)	20.0	20.0	20.5
50	pH	8.3		8.3
	O2 ppm	9.1		8.5
	Cond.	342		338
	Temp(C)	20.0	20.0	20.5
25	pH	8.3		8.4
	O2 ppm	9.0		8.5
	Cond.	328		325
	Temp(C)	20.0	20.0	20.5
13	pH	8.5		8.4
	O2 ppm	9.0		8.5
	Cond.	321		319
	Temp(C)	20.0	20.0	20.5
6	pH	8.5		8.4
	O2 ppm	8.9		8.6
	Cond.	314		312
	Temp(C)	20.0	20.0	20.5
Control	pH	8.5		8.4
	O2 ppm	8.8		8.6
	Cond.	300		303
	Temp(C)	20.0	20.0	20.5

COMPANY: Du Pont Canada Inc., Whitby (80408)
SECTOR: Organic Chemical
REGION: Central

SUMMARY
Monitoring at the Du Pont Canada Inc. plant in Whitby did not commence until February 1990, therefore data for only two Daphnia magna acute lethality tests conducted on samples of combined effluent were submitted. One sample was not acutely lethal to Daphnia, and the other had an LC50 > 100%.

Storm Water

Combined Effluent

03900157 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900250 sampled: 03/27/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

OTCW

OTCW

OTCW

OTCW

Combined Effluent

MISA Trout

TOXICITY TEST REPORT Sample: 03900250

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical

Control point : Combined Effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 03/27/90
Received : 03/28/90
Tested : 03/28/90 at: 1525

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900250

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	9.9				9.2
	Cond.	358				370
	Temp(C)	14.5	14.5	14.5	15.0	14.5
65	pH	7.9				8.2
	O2 ppm	9.4				8.9
	Cond.	420				428
	Temp(C)	14.5	14.5	14.5	15.0	14.5
40	pH	7.9				8.2
	O2 ppm	9.3				8.6
	Cond.	463				471
	Temp(C)	14.5	14.5	14.5	15.0	14.5
20	pH	7.9				8.3
	O2 ppm	8.5				8.6
	Cond.	498				503
	Temp(C)	14.5	14.5	14.5	15.0	14.5
10	pH	7.9				8.4
	O2 ppm	8.2				8.7
	Cond.	513				516
	Temp(C)	14.5	14.5	14.5	15.0	14.5
5	pH	7.9				8.5
	O2 ppm	8.3				8.8
	Cond.	524				524
	Temp(C)	14.5	14.5	14.5	15.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.8				8.0
	Cond.	533				532
	Temp(C)	14.5	14.5	14.5	15.0	14.5

TOXICITY TEST REPORT Sample: 03900157

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical

Control point : Combined Effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 02/27/90
Received : 02/28/90
Tested : 03/01/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900157

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.0
	O2 ppm	10.1				9.5
	Cond.	385				400
	Temp(C)	15.0	14.5	14.5	14.0	14.0
65	pH	8.0				8.1
	O2 ppm	9.6				9.3
	Cond.	444				454
	Temp(C)	15.0	14.5	14.5	14.0	14.0
40	pH	8.0				8.1
	O2 ppm	9.4				9.1
	Cond.	484				492
	Temp(C)	15.0	14.5	14.5	14.0	14.0
20	pH	8.0				8.4
	O2 ppm	9.2				9.6
	Cond.	516				523
	Temp(C)	15.0	14.5	14.5	14.0	14.0
10	pH	8.0				8.3
	O2 ppm	9.0				9.3
	Cond.	533				539
	Temp(C)	15.0	14.5	14.5	14.0	14.0
5	pH	7.9				8.3
	O2 ppm	8.9				9.2
	Cond.	544				554
	Temp(C)	15.0	14.5	14.5	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.2				9.4
	Cond.	545				556
	Temp(C)	15.0	14.5	14.5	14.0	14.0

COMPANY: Du Pont Canada Inc., Whitby (80408)
SECTOR: Organic Chemical
REGION: Central

SUMMARY
The data for two trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. Both samples of combined effluent were determined to have been non-acutely lethal to test fish.

Storm Water

Combined Effluent

03900157 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900250 sampled: 03/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

OTCW

OTCW

OTCW

OTCW

Combined Effluent

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900236

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 03/21/90
Received : 03/23/90
Tested : 03/23/90 at: 1305

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900236

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.0
	O2 ppm	8.8		8.0
	Cond.	447		446
	Temp(C)	20.0	20.0	19.5
50	pH	8.1		8.2
	O2 ppm	8.8		8.3
	Cond.	371		370
	Temp(C)	20.0	20.0	19.5
25	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	335		334
	Temp(C)	20.0	20.0	19.5
13	pH	8.2		8.3
	O2 ppm	8.8		8.6
	Cond.	316		316
	Temp(C)	20.0	20.0	19.5
6	pH	8.2		8.4
	O2 ppm	8.9		8.6
	Cond.	306		308
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	300		294
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900144

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 02/21/90
Received : 02/23/90
Tested : 02/23/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900144

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.7		8.0
	O2 ppm	8.1		7.6
	Cond.	437		437
	Temp(C)	20.0	20.0	19.0
50	pH	8.0		8.2
	O2 ppm	8.4		8.2
	Cond.	370		369
	Temp(C)	20.0	20.0	19.0
25	pH	8.2		8.3
	O2 ppm	8.5		8.5
	Cond.	334		332
	Temp(C)	20.0	20.0	19.0
13	pH	8.4		8.4
	O2 ppm	8.5		8.7
	Cond.	320		316
	Temp(C)	20.0	20.0	19.0
6	pH	8.4		8.4
	O2 ppm	8.6		8.8
	Cond.	308		305
	Temp(C)	20.0	20.0	19.0
Control	pH	8.5		8.5
	O2 ppm	8.7		8.9
	Cond.	299		302
	Temp(C)	20.0	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900050

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/19/90 at: 1340

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900050

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.7		8.0
	O2 ppm	8.9		7.5
	Cond.	553		556
	Temp(C)	20.0	20.0	19.5
50	pH	7.8		8.2
	O2 ppm	8.9		8.0
	Cond.	425		426
	Temp(C)	20.0	20.0	19.5
25	pH	8.1		8.3
	O2 ppm	8.9		8.3
	Cond.	363		367
	Temp(C)	20.0	20.0	19.5
13	pH	8.2		8.4
	O2 ppm	8.9		8.5
	Cond.	329		329
	Temp(C)	20.0	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.9		8.5
	Cond.	312		313
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.6		8.4
	Cond.	301		293
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890394

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 12/20/89
Received : 12/22/89
Tested : 12/22/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890394

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		7.9
	O2 ppm	7.6		6.8
	Cond.	464		457
	Temp(C)	19.5	19.5	20.0
50	pH	7.9		8.1
	O2 ppm	8.6		7.7
	Cond.	386		382
	Temp(C)	19.5	19.5	20.0
25	pH	8.1		8.2
	O2 ppm	8.8		8.1
	Cond.	347		345
	Temp(C)	19.5	19.5	20.0
13	pH	8.1		8.2
	O2 ppm	9.0		8.4
	Cond.	326		329
	Temp(C)	19.5	19.5	20.0
6	pH	8.2		8.3
	O2 ppm	9.0		8.6
	Cond.	312		321
	Temp(C)	19.5	19.5	20.0
Control	pH	8.3		8.4
	O2 ppm	8.9		8.8
	Cond.	307		302
	Temp(C)	19.5	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890276

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/20/89 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	1	8
6	0	0	0	0	0	0	0
13	0	0	0	0	2	4	33
25	0	0	0	0	3	8	66
50	0	0	0	0	12	12	100
100	0	0	9	9	12	12	100

48 Hour LC50 : 17.9 %

95% fid. limits : 13.4 - 23.6 %

Comments :

SLOPE of Mortality Curve : 4.6
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890276

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.5					8.5
	O2 ppm	7.9					9.5
	Cond.	300					301
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5
6	pH	8.5					8.3
	O2 ppm	8.6					8.8
	Cond.	304					307
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5
13	pH	8.4					8.3
	O2 ppm	8.7					8.6
	Cond.	309					315
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5
25	pH	8.3					8.1
	O2 ppm	8.7					8.1
	Cond.	326					330
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5
50	pH	8.1				8.0	
	O2 ppm	8.6				8.6	
	Cond.	356				363	
	Temp(C)	19.5	19.5	19.5	20.0	20.0	
100	pH	7.6				7.7	
	O2 ppm	8.6				6.9	
	Cond.	418				425	
	Temp(C)	19.5	19.5	19.5	20.0	20.0	

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890266

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : MOE
Sampling Method : grab
Sampled By : A.Verbass
Date Collected : 11/15/89
Received : 11/16/89
Tested : 11/16/89 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:05	TOTAL MORTALITY %
100	0	0	11	12	100
60	0	0	5	12	100
30	0	0	0	8	66
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 41.0 %

95% fid. limits : 38.4 - 43.9 %

Comments : MISA Audit/ high oxygen demand

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Kaber alpha=10

TOXICITY TEST PARAMETERS

Sample Number: 02890266

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:05
100	pH	7.2			7.4
	O2 ppm	8.8			3.0
	Cond.	345			395
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.5			7.4
	O2 ppm	8.9			3.9
	Cond.	327			361
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.7			7.4
	O2 ppm	8.9			5.3
	Cond.	314			332
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.6
	O2 ppm	9.0			6.6
	Cond.	306			307
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.6
	O2 ppm	9.0			6.7
	Cond.	301			306
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.7
	O2 ppm	8.9			7.2
	Cond.	292			272
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890230

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 10/18/89
Received : 10/20/89
Tested : 10/20/89 at: 1105

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
6	0	0	0	0	0	0
13	0	0	0	2	5	41
25	0	0	5	9	10	83
50	0	7	9	12	12	100
100	0	12	12	12	12	100

48 Hour LC50 : 15.1 %

95% fid. limits : 11.4 - 20.0 %

Comments :

SLOPE of Mortality Curve : 3.8
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890230

TEST CONC. %		ELAPSED TIME 00:00	02:00	04:00	24:00	48:00
Control	pH	8.4				8.4
	O2 ppm	8.9				9.3
	Cond.	310				298
	Temp(C)	20.0	20.0	20.0	19.5	19.0
6	pH	8.3				8.2
	O2 ppm	9.1				8.7
	Cond.	320				312
	Temp(C)	20.0	20.0	20.0	19.5	19.0
13	pH	8.1				8.0
	O2 ppm	9.1				7.7
	Cond.	320				315
	Temp(C)	20.0	20.0	20.0	19.5	19.0
25	pH	7.9				7.8
	O2 ppm	9.1				6.1
	Cond.	329				322
	Temp(C)	20.0	20.0	20.0	19.5	19.0
50	pH	7.4			7.6	
	O2 ppm	9.3			5.0	
	Cond.	346			341	
	Temp(C)	20.0	20.0	20.0	19.5	
100	pH	6.7	6.7			
	O2 ppm	9.8	9.8			
	Cond.	381	381			
	Temp(C)	20.0	20.0			

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900143

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 02/21/90
Received : 02/23/90
Tested : 02/23/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900143

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.3
	O2 ppm	9.3		8.8
	Cond.	339		338
	Temp(C)	20.0	20.0	19.0
50	pH	8.2		8.4
	O2 ppm	8.9		8.9
	Cond.	321		317
	Temp(C)	20.0	20.0	19.0
25	pH	8.4		8.4
	O2 ppm	8.7		8.9
	Cond.	313		308
	Temp(C)	20.0	20.0	19.0
13	pH	8.4		8.4
	O2 ppm	8.7		8.9
	Cond.	307		303
	Temp(C)	20.0	20.0	19.0
6	pH	8.4		8.4
	O2 ppm	8.6		9.0
	Cond.	303		298
	Temp(C)	20.0	20.0	19.0
Control	pH	8.5		8.5
	O2 ppm	8.7		8.8
	Cond.	299		303
	Temp(C)	20.0	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900051

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/19/90 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	100
50	0	11	11	91
25	0	4	4	33
13	0	0	0	0
6	0	0	0	0
Control	0	0	1	8

48 Hour LC50 : 30.7 %

95% fid. limits : 23.4 - 40.1 %

Comments : Lethal

SLOPE of Mortality Curve : 4.2
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900051

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0	8.2	
	O2 ppm	9.0	8.5	
	Cond.	334	343	
	Temp(C)	20.0	20.0	
50	pH	8.2		8.3
	O2 ppm	9.0		8.6
	Cond.	315		321
	Temp(C)	20.0	20.0	19.5
25	pH	8.3		8.4
	O2 ppm	8.9		8.6
	Cond.	304		310
	Temp(C)	20.0	20.0	19.5
13	pH	8.3		8.4
	O2 ppm	8.9		8.6
	Cond.	300		305
	Temp(C)	20.0	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.9		8.4
	Cond.	299		302
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.6		8.0
	Cond.	301		296
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890265

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 11/15/89
Received : 11/16/89
Tested : 11/16/89 at: 1254

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	12	12	100
60	0	0	12	12	100
30	0	0	0	12	100
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 15.0 - 30.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/immobilization within 24 hrs.

SLOPE of Mortality Curve :
LC50 Calculated By : unable to calculate

TOXICITY TEST PARAMETERS

Sample Number: 02890265

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.7			8.1
	O2 ppm	9.7			8.0
	Cond.	295			305
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			8.1
	O2 ppm	9.5			8.1
	Cond.	297			305
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			8.1
	O2 ppm	9.3			8.1
	Cond.	297			305
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			8.1
	O2 ppm	9.2			8.0
	Cond.	291			306
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.9
	O2 ppm	9.1			7.6
	Cond.	297			305
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.9			8.0
	O2 ppm	9.0			7.7
	Cond.	292			288
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890275

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/20/89 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	1	8
6	0	0	0	0	0
13	0	0	1	1	8
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	2	16

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890275

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.6
	O2 ppm	7.9			9.2
	Cond.	300			338
	Temp(C)	20.0	20.0	20.0	19.5
6	pH	8.5			8.4
	O2 ppm	8.4			9.3
	Cond.	303			304
	Temp(C)	20.0	20.0	20.0	19.5
13	pH	8.4			8.3
	O2 ppm	8.2			9.4
	Cond.	306			302
	Temp(C)	20.0	20.0	20.0	19.5
25	pH	8.3			8.3
	O2 ppm	8.1			9.3
	Cond.	310			307
	Temp(C)	20.0	20.0	20.0	19.5
50	pH	8.3			8.3
	O2 ppm	8.6			9.2
	Cond.	320			316
	Temp(C)	20.0	20.0	20.0	19.5
100	pH	8.0			8.1
	O2 ppm	9.1			9.1
	Cond.	338			338
	Temp(C)	20.0	20.0	20.0	19.5

Du Pont Canada Inc. (continued)

combined effluent

03890230 sampled: 10/18/89 LC50: 15.1 %
95% fid. limits: 11.4 - 20.0 % slope: 3.8
comments:

02890266 sampled: 11/15/89 LC50: 41.0 %
95% fid. limits: 38.4 - 43.9 %
comments: MISA Audit/ high oxygen demand

03890276 sampled: 11/15/89 LC50: 17.9 %
95% fid. limits: 13.4 - 23.6 % slope: 4.6
comments:

03890394 sampled: 12/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900050 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900144 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900236 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

emergency overflow

rain gauge

COMPANY: Du Pont Canada Inc., Maitland
(80002)
(now with Maitland Site)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Data for nine Daphnia magna acute lethality toxicity tests conducted on samples of intake water and combined effluent collected between October 1989 and March 1990 were submitted by Du Pont Canada Inc. of Maitland.

Two of three intake water samples were toxic to Daphnia, as was an audit sample tested in the Ministry laboratory in November.

Four of six samples of combined effluent were not acutely lethal to Daphnia. The samples collected at the beginning of the monitoring period in October and November were toxic to Daphnia. LC50s for these sample were 15.1 and 17.9% consecutively. An audit sample tested in the Ministry laboratory in November was also toxic to Daphnia with 48 h LC50 = 41.1%.

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process effluent

process effluent

combined effluent

combined effluent

storm water

storm water

intake water

03890275 sampled: 11/15/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

02890265 sampled: 11/15/89 LC50: 15.0 - 30.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/immobilization within 24 hrs.

03900051 sampled: 01/17/90 LC50: 30.7 %
95% fid. limits: 23.4 - 40.1 % slope: 4.2
comments: Lethal

03900143 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

MISA Trout

TOXICITY TEST REPORT Sample: 03900236

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 03/21/90
Received : 03/23/90
Tested : 03/23/90 at: 1340

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900236

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.3
	O2 ppm	10.1				9.8
	Cond.	439				461
	Temp(C)	15.0	14.5	14.5	14.0	15.0
100	pH	8.0				8.3
	O2 ppm	10.1				9.7
	Cond.	439				455
	Temp(C)	15.0	14.5	14.5	14.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.6				9.6
	Cond.	518				510
	Temp(C)	15.0	14.5	14.5	14.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.6				9.7
	Cond.	518				521
	Temp(C)	15.0	14.5	14.5	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900144

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 02/21/90
Received : 02/23/90
Tested : 02/23/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900144

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.7				8.1
	O2 ppm	9.8				9.3
	Cond.	445				454
	Temp(C)	15.0	14.5	14.0	14.0	15.0
65	pH	7.8				8.1
	O2 ppm	9.5				8.8
	Cond.	488				488
	Temp(C)	15.0	14.5	14.0	14.0	15.0
40	pH	7.8				8.4
	O2 ppm	9.6				9.4
	Cond.	509				507
	Temp(C)	15.0	14.5	14.0	14.0	15.0
20	pH	7.9				8.5
	O2 ppm	9.6				9.6
	Cond.	527				521
	Temp(C)	15.5	14.5	14.0	14.0	15.0
10	pH	7.9				8.4
	O2 ppm	9.6				9.3
	Cond.	534				530
	Temp(C)	15.5	14.5	14.0	14.0	15.0
5	pH	7.9				8.4
	O2 ppm	9.5				9.2
	Cond.	536				532
	Temp(C)	15.5	14.5	14.0	14.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.0				8.7
	Cond.	542				538
	Temp(C)	16.0	14.5	14.0	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900050

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/20/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900050

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				8.3
	O2 ppm	9.4				10.1
	Cond.	582				578
	Temp(C)	15.0	14.5	14.0	14.0	14.0
65	pH	7.8				8.4
	O2 ppm	9.5				10.1
	Cond.	572				567
	Temp(C)	15.0	14.5	14.0	14.0	14.0
40	pH	7.8				8.4
	O2 ppm	9.1				9.8
	Cond.	559				557
	Temp(C)	15.0	14.5	14.0	14.0	14.0
20	pH	7.9				8.5
	O2 ppm	8.9				10.1
	Cond.	549				554
	Temp(C)	15.0	14.5	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	8.8				10.1
	Cond.	542				543
	Temp(C)	15.0	14.5	14.0	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	8.9				10.1
	Cond.	540				528
	Temp(C)	15.0	14.5	14.0	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	8.7				10.1
	Cond.	542				537
	Temp(C)	15.0	14.5	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890394

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 12/20/89
Received : 12/22/89
Tested : 12/23/89 at: 1445

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890394

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				8.1
	O2 ppm	8.0				9.5
	Cond.	460				472
	Temp(C)	15.0	14.0	14.0	14.5	14.5
65	pH	7.8				8.2
	O2 ppm	8.2				9.5
	Cond.	489				496
	Temp(C)	15.0	14.0	14.0	14.5	14.5
40	pH	7.8				8.3
	O2 ppm	8.6				9.7
	Cond.	512				519
	Temp(C)	15.0	14.0	14.0	14.5	14.5
20	pH	7.9				8.3
	O2 ppm	9.0				9.4
	Cond.	530				536
	Temp(C)	15.0	14.0	14.0	14.5	14.5
10	pH	7.9				8.4
	O2 ppm	9.0				9.6
	Cond.	539				543
	Temp(C)	15.0	14.0	14.0	14.5	14.5
5	pH	7.9				8.5
	O2 ppm	9.0				9.3
	Cond.	549				551
	Temp(C)	15.0	14.0	14.0	14.5	14.5
Control	pH	8.0				8.5
	O2 ppm	9.5				9.4
	Cond.	556				563
	Temp(C)	15.0	14.0	14.0	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01890266

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 11/15/89
Received : 11/16/89
Tested : 11/16/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	24:10	48:00	70:10	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	4	7	8	9	90
65	0	0	0	0	0	0	2	3	3	30
40	0	0	0	0	0	0	1	1	1	10
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 70.1 %

95% fid. limits : 57.5 - 88.9 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By : probit

TOXICITY TEST PARAMETERS

Sample Number: 01890266

TEST CONC. %		ELAPSED TIME 00:00	01:10	01:00	02:00	04:00	24:10	48:00	70:10	96:0
100	pH	6.2	7.3				7.3	7.5	7.4	7.
	O2 ppm	9.1	9.1				9.0	9.4	9.2	8.
	Cond.	300	275				290	300	310	30
	Temp(C)	15.0	15.0				16.0	15.0	15.0	16.
65	pH		7.4				7.6	7.5	7.4	7.
	O2 ppm		9.2				9.6	9.7	9.6	8.
	Cond.		255				265	285	290	28
	Temp(C)		15.0				16.0	15.0	15.0	16.
40	pH		7.5				7.6	7.4	7.4	7.
	O2 ppm		9.4				9.7	9.9	9.3	8.
	Cond.		250				255	275	280	26
	Temp(C)		15.0				16.0	15.0	15.0	16.
30	pH		7.5				7.6	7.4	7.4	7.
	O2 ppm		9.5				10.0	10.0	9.8	9.
	Cond.		240				260	270	275	25
	Temp(C)		15.0				16.0	15.0	15.0	16.
20	pH		7.5				7.7	7.3	7.3	7.
	O2 ppm		9.6				9.8	9.8	9.8	8.
	Cond.		235				245	265	270	25
	Temp(C)		15.0				16.0	15.0	15.0	16.
10	pH		7.5				7.7	7.2	7.2	7.
	O2 ppm		9.6				9.9	9.9	9.9	9.
	Cond.		230				240	260	265	25
	Temp(C)		15.0				16.0	15.0	15.0	16.
Control	pH		7.6				7.6	7.1	7.1	7.
	O2 ppm		9.6				9.9	9.8	9.9	9.
	Cond.		260				250	245	250	25
	Temp(C)		15.0				16.0	15.0	15.0	16.

MISA Trout

TOXICITY TEST REPORT Sample: 03890276

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T.Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	4	5	5	5	50

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890276

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.6
	O2 ppm	8.4					11.0
	Cond.	558					561
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
10	pH	7.9					8.6
	O2 ppm	9.4					11.0
	Cond.	549					515
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
20	pH	7.9					8.5
	O2 ppm	9.4					10.8
	Cond.	536					530
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
40	pH	7.8					8.5
	O2 ppm	9.5					11.0
	Cond.	510					500
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
65	pH	7.7					8.3
	O2 ppm	9.7					10.4
	Cond.	477					506
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
100	pH	7.5			8.1		
	O2 ppm	10.0			8.6		
	Cond.	430			442		
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890230

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 10/18/89
Received : 10/20/89
Tested : 10/20/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	2	3	5	5	50

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890230

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	8.4					8.9
	Cond.	573					565
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
10	pH	7.6					8.5
	O2 ppm	8.6					8.9
	Cond.	554					550
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
20	pH	7.6					8.3
	O2 ppm	8.9					8.8
	Cond.	540					536
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
40	pH	7.5					8.3
	O2 ppm	9.0					8.9
	Cond.	509					507
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
65	pH	7.3					8.2
	O2 ppm	9.2					8.9
	Cond.	456					461
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
100	pH	6.8				7.8	
	O2 ppm	9.3				8.3	
	Cond.	394				394	
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900143

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 02/21/90
Received : 02/23/90
Tested : 02/23/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	1	10
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900143

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.2
	O2 ppm	10.2				9.7
	Cond.	352				352
	Temp(C)	15.0	14.5	14.0	14.0	14.5
65	pH	7.9				8.3
	O2 ppm	10.0				9.5
	Cond.	426				419
	Temp(C)	15.0	14.5	14.0	14.0	14.5
40	pH	7.9				8.4
	O2 ppm	9.9				9.5
	Cond.	471				468
	Temp(C)	15.0	14.5	14.0	14.0	14.5
20	pH	7.9				8.4
	O2 ppm	9.7				9.5
	Cond.	510				505
	Temp(C)	15.5	14.5	14.0	14.0	14.5
10	pH	7.9				8.5
	O2 ppm	9.5				9.8
	Cond.	528				512
	Temp(C)	16.0	14.5	14.0	14.0	14.5
5	pH	7.9				8.5
	O2 ppm	9.4				9.6
	Cond.	537				519
	Temp(C)	16.0	14.5	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.9				9.3
	Cond.	548				540
	Temp(C)	16.0	14.5	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900051

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/20/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900051

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.2
	O2 ppm	10.4				9.3
	Cond.	362				363
	Temp(C)	15.5	14.5	14.0	14.0	14.0
65	pH	8.0				8.4
	O2 ppm	10.3				9.3
	Cond.	411				415
	Temp(C)	15.5	14.5	14.0	14.0	14.0
40	pH	8.0				8.5
	O2 ppm	9.7				9.6
	Cond.	458				463
	Temp(C)	15.0	14.5	14.0	14.0	14.0
20	pH	7.9				8.5
	O2 ppm	9.4				9.5
	Cond.	497				499
	Temp(C)	15.0	14.5	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	9.3				9.4
	Cond.	520				520
	Temp(C)	15.0	14.5	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	9.1				9.2
	Cond.	527				524
	Temp(C)	15.0	14.5	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.0				9.2
	Cond.	541				531
	Temp(C)	15.0	14.5	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890275

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME	TOTAL MORTALITY %
Control		0
10		0
20		0
40		0
65		0
100		0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890275

TEST CONC. %	ELAPSED TIME
Control	error
10	error
20	error
40	error
65	error
100	error

Du Pont Canada Inc. (continued)

combined effluent

03890230 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

03890276 sampled: 11/15/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

01890266 sampled: 11/15/89 LC50: 70.1 %
95% fid. limits: 57.5 - 88.9 %
comments: MISA audit sample.

03890394 sampled: 12/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900050 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900144 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900236 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

emergency overflow

rain gauge

COMPANY: Du Pont Canada Inc., Maitland
(80002)
(now with Maitland Site)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for nine trout bioassays, conducted on combined effluent and intake water samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. Two of the combined effluent samples were determined to have been acutely lethal to test fish. Both sample 96 hour LC50s were >100 %. The Ministry audit sample, collected in November, 96 hour LC50 was 70.1 %. The remaining four combined effluent samples were determined to have been non-acutely lethal to test fish. Two of the intake water samples were determined to have been non-acutely lethal while the third, collected in February, had a 96 hour LC50 >100 %.

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process effluent

process effluent

combined effluent

combined effluent

storm water

storm water

intake water

03890275 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900051 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non Lethal

03900143 sampled: 02/21/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900235

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	4	4	33
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900235

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.2		7.9
	O2 ppm	9.2		7.7
	Cond.	348		349
	Temp(C)	20.0	20.0	19.5
50	pH	8.2		8.1
	O2 ppm	9.0		8.1
	Cond.	323		323
	Temp(C)	20.0	20.0	19.5
25	pH	8.3		8.3
	O2 ppm	9.0		8.4
	Cond.	311		310
	Temp(C)	20.0	20.0	19.5
13	pH	8.2		8.3
	O2 ppm	8.9		8.5
	Cond.	305		305
	Temp(C)	20.0	20.0	19.5
6	pH	8.2		8.3
	O2 ppm	8.9		8.6
	Cond.	302		301
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	300		293
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900023

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : A. verbaas
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1340

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900023

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	8.9			7.7
	O2 ppm	10.0			4.0
	Cond.	347			346
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	8.7			7.6
	O2 ppm	9.6			5.1
	Cond.	341			345
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.4			7.7
	O2 ppm	9.4			6.2
	Cond.	332			337
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.2			7.8
	O2 ppm	9.3			7.1
	Cond.	329			334
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.9
	O2 ppm	9.2			7.9
	Cond.	326			332
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.5			8.0
	O2 ppm	9.3			8.3
	Cond.	326			327
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900145

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1520

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	100
50	0	12	12	100
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 35.3 %

95% fid. limits : 25.0 - 50.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03900145

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	11.1	10.4	
	O2 ppm	9.3	8.9	
	Cond.	872	780	
	Temp(C)	20.0	20.0	
50	pH	10.1	9.8	
	O2 ppm	9.0	8.8	
	Cond.	492	478	
	Temp(C)	20.0	20.0	
25	pH	9.5		9.0
	O2 ppm	8.8		8.7
	Cond.	376		355
	Temp(C)	20.0	20.0	19.0
13	pH	9.2		8.7
	O2 ppm	8.6		8.8
	Cond.	341		325
	Temp(C)	20.0	20.0	19.0
6	pH	8.9		8.6
	O2 ppm	8.6		8.8
	Cond.	323		313
	Temp(C)	20.0	20.0	19.0
Control	pH	8.5		8.5
	O2 ppm	8.7		8.9
	Cond.	299		302
	Temp(C)	20.0	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900047

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D.Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900047

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.0
	O2 ppm	8.8		7.7
	Cond.	340		349
	Temp(C)	20.0	20.0	19.5
50	pH	8.1		8.2
	O2 ppm	8.8		8.2
	Cond.	319		324
	Temp(C)	20.0	20.0	19.5
25	pH	8.2		8.3
	O2 ppm	8.7		8.4
	Cond.	308		312
	Temp(C)	20.0	20.0	19.5
13	pH	8.2		8.4
	O2 ppm	8.6		8.6
	Cond.	304		307
	Temp(C)	20.0	20.0	19.5
6	pH	8.2		8.4
	O2 ppm	8.6		8.7
	Cond.	302		303
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.6		8.5
	Cond.	301		297
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890393

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/23/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	12	100
50	0	0	12	100
25	0	0	11	91
13	0	0	9	75
6	0	0	4	33
Control	0	0	1	8

48 Hour LC50 : 8.0 %

95% fid. limits : 5.3 - 12.0 %

Comments :

SLOPE of Mortality Curve : 2.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890393

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.2		7.8
	O2 ppm	10.6		6.8
	Cond.	348		343
	Temp(C)	20.0	19.5	20.0
50	pH	8.3		8.1
	O2 ppm	9.6		7.7
	Cond.	322		323
	Temp(C)	20.0	19.5	20.0
25	pH	8.3		8.3
	O2 ppm	9.2		8.2
	Cond.	311		313
	Temp(C)	20.0	19.5	20.0
13	pH	8.3		8.4
	O2 ppm	9.0		8.3
	Cond.	306		308
	Temp(C)	20.0	19.5	20.0
6	pH	8.4		8.4
	O2 ppm	8.8		8.4
	Cond.	302		305
	Temp(C)	20.0	19.5	20.0
Control	pH	8.4		8.4
	O2 ppm	9.0		8.3
	Cond.	301		296
	Temp(C)	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890278

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/19/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890278

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.0			9.6
	Cond.	296			295
	Temp(C)	19.0	19.0	19.5	20.0
6	pH	8.5			8.4
	O2 ppm	8.7			9.3
	Cond.	294			297
	Temp(C)	19.0	19.0	19.5	20.0
13	pH	8.5			8.4
	O2 ppm	8.8			9.2
	Cond.	303			301
	Temp(C)	19.0	19.0	19.5	20.0
25	pH	8.4			8.4
	O2 ppm	8.9			9.2
	Cond.	311			308
	Temp(C)	19.0	19.0	19.5	20.0
50	pH	8.4			8.3
	O2 ppm	9.0			9.2
	Cond.	326			324
	Temp(C)	19.0	19.0	19.5	20.0
100	pH	8.1			8.2
	O2 ppm	9.3			9.1
	Cond.	358			354
	Temp(C)	19.0	19.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890229

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89
Tested : 10/20/89 at: 1030

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0
6	0	0	0	0	0	0
13	0	0	0	1	1	8
25	0	0	0	10	12	100
50	0	0	0	12	12	100
100	0	9	12	12	12	100

48 Hour LC50 : 16.2 %

95% fid. limits : 12.1 - 21.6 %

Comments :

SLOPE of Mortality Curve : 5.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890229

TEST CONC. %		ELAPSED TIME 00:00	02:00	04:00	24:00	48:00
Control	pH	8.4				8.4
	O2 ppm	8.9				8.9
	Cond.	310				297
	Temp(C)	20.0	20.0	20.0	19.5	19.0
6	pH	8.4				8.4
	O2 ppm	9.1				8.9
	Cond.	312				307
	Temp(C)	20.0	20.0	20.0	19.5	19.0
13	pH	8.3				8.4
	O2 ppm	9.1				9.0
	Cond.	313				308
	Temp(C)	20.0	20.0	20.0	19.5	19.0
25	pH	8.3				8.4
	O2 ppm	9.2				9.0
	Cond.	315				310
	Temp(C)	20.0	20.0	20.0	19.5	19.0
50	pH	8.3			8.3	
	O2 ppm	9.4			9.6	
	Cond.	321			321	
	Temp(C)	20.0	20.0	20.0	19.5	
100	pH	8.2		8.2		
	O2 ppm	10.2		10.2		
	Cond.	335		335		
	Temp(C)	20.0	20.0	20.0		

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900234

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	4	6	50
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900234

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.0
	O2 ppm	9.2		7.7
	Cond.	351		348
	Temp(C)	20.0	20.0	19.5
50	pH	8.2		8.2
	O2 ppm	8.9		8.1
	Cond.	322		318
	Temp(C)	20.0	20.0	19.5
25	pH	8.2		8.3
	O2 ppm	8.8		8.2
	Cond.	313		309
	Temp(C)	20.0	20.0	19.5
13	pH	8.3		8.3
	O2 ppm	8.8		8.3
	Cond.	307		303
	Temp(C)	20.0	20.0	19.5
6	pH	8.3		8.4
	O2 ppm	8.8		8.3
	Cond.	304		301
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.8		8.3
	Cond.	300		297
	Temp(C)	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02900021

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : MOE
Sampling Method : Grab
Sampled By : A. Verbaas
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	6	12	100
60	0	0	0	2	16
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 70.0 %

95% fid. limits : 61.5 - 79.6 %

Comments : MISA Audit/high biological oxygen demand

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Karber alpha = 0

TOXICITY TEST PARAMETERS

Sample Number: 02900021

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	9.3			8.3
	O2 ppm	10.5			1.1
	Cond.	378			381
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	9.0			7.4
	O2 ppm	10.0			2.4
	Cond.	354			356
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.7			7.5
	O2 ppm	9.6			5.3
	Cond.	340			323
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.4			7.7
	O2 ppm	9.4			6.7
	Cond.	333			337
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.8
	O2 ppm	9.3			7.9
	Cond.	328			329
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.8			7.6
	O2 ppm	9.3			8.5
	Cond.	320			320
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900146

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	100
50	0	11	11	91
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 39.3 %

95% fid. limits : 29.9 - 51.4 %

Comments :

SLOPE of Mortality Curve : 5.8
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900146

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	10.2	9.8	
	O2 ppm	9.3	8.8	
	Cond.	429	424	
	Temp(C)	20.0	20.0	
50	pH	9.5		8.9
	O2 ppm	8.9		8.8
	Cond.	347		334
	Temp(C)	20.0	20.0	19.0
25	pH	9.1		8.7
	O2 ppm	8.8		8.9
	Cond.	322		315
	Temp(C)	20.0	20.0	19.0
13	pH	8.8		8.6
	O2 ppm	8.8		8.9
	Cond.	312		309
	Temp(C)	20.0	20.0	19.0
6	pH	8.6		8.5
	O2 ppm	8.8		8.8
	Cond.	303		303
	Temp(C)	20.0	20.0	19.0
Control	pH	8.5		8.5
	O2 ppm	8.7		8.8
	Cond.	299		292
	Temp(C)	20.0	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900048

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900048

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.1
	O2 ppm	9.0		7.8
	Cond.	359		363
	Temp(C)	20.0	20.0	19.5
50	pH	8.2		8.2
	O2 ppm	8.9		8.1
	Cond.	328		331
	Temp(C)	20.0	20.0	19.5
25	pH	8.2		8.3
	O2 ppm	8.9		8.3
	Cond.	314		318
	Temp(C)	20.0	20.0	19.5
13	pH	8.2		8.4
	O2 ppm	8.8		8.4
	Cond.	306		309
	Temp(C)	20.0	20.0	19.5
6	pH	8.2		8.4
	O2 ppm	8.7		8.5
	Cond.	302		306
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.6		8.5
	Cond.	301		299
	Temp(C)	20.0	20.0	19.5

TOXICITY TEST REPORT Sample: 03890392

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/22/89 at: 1555

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	100
50	0	12	12	100
25	0	12	12	100
13	0	1	6	50
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 12.7 %

95% fid. limits : 10.0 - 16.0 %

Comments :

SLOPE of Mortality Curve : 5.6
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890392

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1	7.9	
	O2 ppm	10.4	7.6	
	Cond.	350	342	
	Temp(C)	19.5	20.0	
50	pH	8.2	8.2	
	O2 ppm	9.6	7.9	
	Cond.	331	324	
	Temp(C)	19.5	20.0	
25	pH	8.2	8.3	
	O2 ppm	9.2	8.2	
	Cond.	320	316	
	Temp(C)	19.5	20.0	
13	pH	8.2		8.3
	O2 ppm	9.1		8.6
	Cond.	315		318
	Temp(C)	19.5	20.0	20.0
6	pH	8.3		8.3
	O2 ppm	9.0		8.3
	Cond.	310		315
	Temp(C)	19.5	20.0	20.0
Control	pH	8.3		8.3
	O2 ppm	8.9		8.8
	Cond.	307		317
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890277

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/19/89 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	1	1	8
25	0	0	0	0	0
50	0	0	1	1	8
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890277

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.0			9.9
	Cond.	296			301
	Temp(C)	19.0	19.0	19.5	20.0
6	pH	8.5			8.3
	O2 ppm	9.0			9.5
	Cond.	301			300
	Temp(C)	19.0	19.0	19.5	20.0
13	pH	8.5			8.3
	O2 ppm	9.0			9.4
	Cond.	306			305
	Temp(C)	19.0	19.0	19.5	20.0
25	pH	8.4			8.3
	O2 ppm	9.0			9.3
	Cond.	313			311
	Temp(C)	19.0	19.0	19.5	20.0
50	pH	8.3			8.2
	O2 ppm	8.9			9.1
	Cond.	328			325
	Temp(C)	19.0	19.0	19.5	20.0
100	pH	8.2			8.2
	O2 ppm	8.9			9.0
	Cond.	360			355
	Temp(C)	19.0	19.0	19.5	20.0

TOXICITY TEST REPORT Sample: 03890228

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89
Tested : 10/20/89 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	1	8
6	0	0	0	0	0	0
13	0	0	0	3	3	25
25	0	0	0	7	8	66
50	0	0	0	12	12	100
100	0	10	11	12	12	100

48 Hour LC50 : 18.9 %

95% fid. limits : 14.3 - 24.7 %

Comments :

SLOPE of Mortality Curve : 5.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890228

TEST CONC. %		ELAPSED TIME 00:00	02:00	04:00	24:00	48:00
Control	pH	8.4				8.4
	O2 ppm	8.9				8.9
	Cond.	310				294
	Temp(C)	20.0	20.0	20.0	19.5	19.0
6	pH	8.3				8.4
	O2 ppm	8.9				8.9
	Cond.	318				308
	Temp(C)	20.0	20.0	20.0	19.5	19.0
13	pH	8.3				8.4
	O2 ppm	8.9				9.0
	Cond.	318				311
	Temp(C)	20.0	20.0	20.0	19.5	19.0
25	pH	8.2				8.3
	O2 ppm	9.0				9.0
	Cond.	322				314
	Temp(C)	20.0	20.0	20.0	19.5	19.0
50	pH	8.0			8.2	
	O2 ppm	9.3			9.9	
	Cond.	332			329	
	Temp(C)	20.0	20.0	20.0	19.5	
100	pH	7.6			7.9	
	O2 ppm	10.2			10.1	
	Cond.	352			353	
	Temp(C)	20.0	20.0	20.0	19.5	

Du Pont Canada Inc. (continued)

02900021 sampled: 02/26/90 LC50: 70.0 %
95% fid. limits: 61.5 - 79.6 %
comments: MISA Audit/high biological oxygen demand

03900234 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

waste site

process effluent

combined effluent

03890229 sampled: 10/17/89 LC50: 16.2 %
95% fid. limits: 12.1 - 21.6 % slope: 5.4
comments:

03890278 sampled: 11/14/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890393 sampled: 12/19/89 LC50: 8.0 %
95% fid. limits: 5.3 - 12.0 % slope: 2.5
comments:

03900047 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900145 sampled: 02/20/90 LC50: 35.3 %
95% fid. limits: 25.0 - 50.0 %
comments:

02900023 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900235 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

rain gauge

intake water

COMPANY: Du Pont Canada Inc., Kingston
(80101)
(now with Kingston Site)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Data for twelve Daphnia magna acute lethality toxicity tests were conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by DuPont Canada Inc. of Kingston. Toxicity was variable for both outfalls.

All six samples from combined effluent #700 were lethal to Daphnia. Toxicity ranged from a sample in which only one animal died, to a sample collected in December with an LC50 = 12.7%.

Two of six samples from combined effluent pipe #1100 were not acutely lethal to Daphnia. Toxicity in the remaining 4 samples ranged from the November sample in which only one animal died in the test, to a sample collected in December which generated an LC50 = 8.0%.

Audit tests were conducted in the Ministry laboratory on samples collected in February from both outfalls. The sample from combined effluent #700 was toxic to Daphnia with a 48 h LC50 of 70.0%. The sample from combined effluent #1100 was nonlethal.

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process effluent

combined effluent

03890228 sampled: 10/17/89 LC50: 18.9 %
95% fid. limits: 14.3 - 24.7 % slope: 5.1
comments:

03890277 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890392 sampled: 12/19/89 LC50: 12.7 %
95% fid. limits: 10.0 - 16.0 % slope: 5.6
comments:

03900048 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900146 sampled: 02/20/90 LC50: 39.3 %
95% fid. limits: 29.9 - 51.4 % slope: 5.8
comments:

MISA Trout

TOXICITY TEST REPORT Sample: 03900235

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1340

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900235

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.2				7.9
	O2 ppm	10.5				9.1
	Cond.	349				363
	Temp(C)	15.0	14.5	14.5	14.0	15.0
65	pH	8.1				8.2
	O2 ppm	10.1				9.4
	Cond.	411				431
	Temp(C)	15.0	14.5	14.5	14.0	15.0
40	pH	8.0				8.3
	O2 ppm	9.9				9.4
	Cond.	459				468
	Temp(C)	15.0	14.5	14.5	14.0	15.0
20	pH	7.9				8.4
	O2 ppm	9.7				9.6
	Cond.	495				503
	Temp(C)	15.0	14.5	14.5	14.0	15.0
10	pH	7.9				8.4
	O2 ppm	9.5				9.7
	Cond.	510				520
	Temp(C)	15.0	14.5	14.5	14.0	15.0
5	pH	7.9				8.5
	O2 ppm	9.4				9.9
	Cond.	530				530
	Temp(C)	15.0	14.5	14.5	14.0	15.0
Control	pH	8.0				8.4
	O2 ppm	9.4				9.5
	Cond.	540				525
	Temp(C)	15.0	14.5	14.5	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 01900023

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : A. Verbaas
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	21:00	46:00	71:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	1	1	1	10
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01900023

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	21:00	46:00	71:00	96:00
100	pH	8.6	8.9	7.6	7.7	7.7	7.7		
	O2 ppm	10.1	10.6	9.9	10.0	10.1	10.8		
	Cond.	270	295	285	285	285	290		
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0		
65	pH		8.6	7.6	7.6	7.7	7.6		
	O2 ppm		10.6	10.1	10.0	10.2	10.8		
	Cond.		285	275	280	280	285		
	Temp(C)		15.0	15.0	15.0	15.0	15.0		
40	pH		8.3	7.5	7.5	7.5	7.5		
	O2 ppm		10.5	10.0	9.8	10.0	10.6		
	Cond.		280	270	275	275	280		
	Temp(C)		15.0	15.0	15.0	15.0	15.0		
30	pH		8.1	7.4	7.3	7.4	7.4		
	O2 ppm		10.5	9.8	9.7	9.8	10.5		
	Cond.		275	270	275	275	275		
	Temp(C)		15.0	15.0	15.0	15.0	15.0		
20	pH		7.8	7.6	7.6	7.6	7.5		
	O2 ppm		10.5	10.3	10.2	10.3	11.0		
	Cond.		275	265	270	270	270		
	Temp(C)		15.0	15.0	15.0	15.0	15.0		
10	pH		7.5	7.5	7.5	7.5	7.5		
	O2 ppm		10.4	10.2	10.2	10.3	10.8		
	Cond.		270	265	270	265	275		
	Temp(C)		15.0	15.0	15.0	15.0	15.0		
Control	pH		7.3	7.3	7.1	7.2	7.5		
	O2 ppm		10.3	10.1	10.1	10.2	10.7		
	Cond.		250	265	265	260	270		
	Temp(C)		15.0	15.0	15.0	15.0	15.0		

MISA Trout

TOXICITY TEST REPORT Sample: 03900145

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	10	100
65	0	0	6	7	8	8	80
40	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : 56.8 %

95% fid. limits : 47.6 - 67.7 %

Comments :

SLOPE of Mortality Curve : 8.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900145

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
100	pH	11.2	11.2				
	O2 ppm	10.2	10.2				
	Cond.	877	877				
	Temp(C)	15.0	14.5				
65	pH	10.0		9.8			
	O2 ppm	10.2		9.8			
	Cond.	611		604			
	Temp(C)	15.0	14.5	14.5	14.0	14.0	14.5
40	pH	9.5					8.2
	O2 ppm	10.0					8.9
	Cond.	590					548
	Temp(C)	15.0	14.5	14.5	14.0	14.0	14.5
20	pH	8.8					8.2
	O2 ppm	9.7					9.3
	Cond.	547					539
	Temp(C)	15.0	14.5	14.5	14.0	14.0	14.5
10	pH	8.4					8.4
	O2 ppm	9.5					9.7
	Cond.	553					532
	Temp(C)	15.0	14.5	14.5	14.0	14.0	14.5
5	pH	8.2					8.4
	O2 ppm	9.4					9.6
	Cond.	551					536
	Temp(C)	15.0	14.5	14.5	14.0	14.0	14.5
Control	pH	7.8					8.4
	O2 ppm	9.1					9.5
	Cond.	548					540
	Temp(C)	15.0	14.5	14.5	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900047

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900047

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	9.6				9.1
	Cond.	338				359
	Temp(C)	16.0	14.0	14.0	14.0	14.0
65	pH	7.9				8.3
	O2 ppm	9.1				9.3
	Cond.	410				421
	Temp(C)	16.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.4
	O2 ppm	8.8				9.3
	Cond.	464				473
	Temp(C)	16.0	14.0	14.0	14.0	14.0
20	pH	7.9				8.5
	O2 ppm	8.6				9.3
	Cond.	504				504
	Temp(C)	16.0	14.0	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	8.5				8.9
	Cond.	526				516
	Temp(C)	16.0	14.0	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	8.4				9.2
	Cond.	530				516
	Temp(C)	16.0	14.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.1				8.1
	Cond.	534				524
	Temp(C)	16.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890393

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/23/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	10	10	10	10	100
65	0	8	10	10	10	100
40	0	0	3	3	3	30
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 42.7 %

95% fid. limits : 33.9 - 53.7 %

Comments :

SLOPE of Mortality Curve : 6.1
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890393

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1	8.5			
	O2 ppm	10.5	9.6			
	Cond.	348	349			
	Temp(C)	15.0	14.0			
65	pH	7.9	8.4			
	O2 ppm	9.6	9.5			
	Cond.	423	430			
	Temp(C)	15.0	14.0	14.0		
40	pH	7.8				8.4
	O2 ppm	9.1				9.3
	Cond.	473				478
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.8				8.5
	O2 ppm	9.0				9.4
	Cond.	513				512
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.4
	O2 ppm	8.9				9.4
	Cond.	531				531
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.4
	O2 ppm	8.8				9.2
	Cond.	539				543
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.4
	O2 ppm	8.9				9.3
	Cond.	550				558
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890278

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	1	10
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890278

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.6
	O2 ppm	8.4					10.9
	Cond.	560					548
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
10	pH	7.9					8.6
	O2 ppm	9.3					10.0
	Cond.	543					536
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
20	pH	7.9					8.6
	O2 ppm	9.4					9.8
	Cond.	520					518
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
40	pH	7.9					8.5
	O2 ppm	9.6					9.7
	Cond.	482					480
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
65	pH	8.0					8.2
	O2 ppm	9.8					9.1
	Cond.	434					440
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
100	pH	8.1					8.1
	O2 ppm	10.2					9.6
	Cond.	360					376
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890229

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89
Tested : 10/20/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	6	7	10	10	100
100	0	0	10	10	10	10	100

96 Hour LC50 : 51.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03890229

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.4
	O2 ppm	8.5					9.1
	Cond.	573					565
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
10	pH	7.8					8.4
	O2 ppm	8.5					9.1
	Cond.	547					538
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
20	pH	7.8					8.4
	O2 ppm	8.6					9.0
	Cond.	523					525
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
40	pH	7.8					8.4
	O2 ppm	9.0					9.1
	Cond.	475					484
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
65	pH	7.9		8.2			
	O2 ppm	9.2		9.2			
	Cond.	420		428			
	Temp(C)	14.0	14.5	15.0	15.0		
100	pH	8.2		8.2			
	O2 ppm	9.9		9.4			
	Cond.	350		352			
	Temp(C)	14.0	14.5	15.0			

MISA Trout

TOXICITY TEST REPORT Sample: 03900234

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1345

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900234

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.3				8.1
	O2 ppm	10.5				9.8
	Cond.	340				365
	Temp(C)	15.0	14.5	14.5	14.0	15.0
65	pH	8.1				8.3
	O2 ppm	9.8				9.8
	Cond.	411				429
	Temp(C)	15.0	14.5	14.5	14.0	15.0
40	pH	8.0				8.4
	O2 ppm	9.7				9.9
	Cond.	473				470
	Temp(C)	15.0	14.5	14.5	14.0	15.0
20	pH	7.9				8.4
	O2 ppm	9.2				9.9
	Cond.	506				505
	Temp(C)	15.0	14.5	14.5	14.0	15.0
10	pH	7.9				8.5
	O2 ppm	8.9				9.0
	Cond.	526				519
	Temp(C)	15.0	14.5	14.5	14.0	15.0
5	pH	7.9				8.4
	O2 ppm	8.7				9.8
	Cond.	533				530
	Temp(C)	15.0	14.5	14.5	14.0	15.0
Control	pH	7.9				8.5
	O2 ppm	8.5				8.0
	Cond.	541				540
	Temp(C)	15.0	14.5	14.5	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900146

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	18:30	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	7	7	8	8	8	80
65	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : 86.4 %

95% fid. limits : 76.1 - 98.1 %

Comments :

SLOPE of Mortality Curve : 13.3
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900146

TEST CONC. %		ELAPSED TIME 00:00	18:30	24:00	48:00	72:00	96:00
100	pH	10.2	9.7				
	O2 ppm	10.1	10.0				
	Cond.	447	438				
	Temp(C)	16.0	14.5	14.5	14.0	14.0	15.0
65	pH	9.1					8.2
	O2 ppm	9.9					9.3
	Cond.	475					437
	Temp(C)	16.0	14.5	14.5	14.0	14.0	15.0
40	pH	8.7					8.3
	O2 ppm	9.0					9.5
	Cond.	483					486
	Temp(C)	15.0	14.5	14.5	14.0	14.0	15.0
20	pH	8.4					8.3
	O2 ppm	8.6					9.2
	Cond.	519					521
	Temp(C)	15.0	14.5	14.5	14.0	14.0	15.0
10	pH	8.1					8.4
	O2 ppm	8.4					9.5
	Cond.	534					528
	Temp(C)	15.0	14.5	14.5	14.0	14.0	15.0
5	pH	8.0					8.5
	O2 ppm	8.2					9.6
	Cond.	536					525
	Temp(C)	15.0	14.5	14.5	14.0	14.0	15.0
Control	pH	7.9					8.6
	O2 ppm	8.1					10.0
	Cond.	542					530
	Temp(C)	15.0	14.5	14.5	14.0	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900048

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900048

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	10.3				9.1
	Cond.	370				380
	Temp(C)	14.5	14.0	14.0	14.0	14.0
65	pH	7.9				8.3
	O2 ppm	9.9				9.3
	Cond.	380				443
	Temp(C)	14.5	14.0	14.0	14.0	14.0
40	pH	7.9				8.4
	O2 ppm	9.4				9.4
	Cond.	395				482
	Temp(C)	14.5	14.0	14.0	14.0	14.0
20	pH	7.9				8.5
	O2 ppm	9.3				9.3
	Cond.	497				512
	Temp(C)	14.5	14.0	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	9.3				9.2
	Cond.	517				521
	Temp(C)	14.5	14.0	14.0	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	9.1				9.1
	Cond.	533				528
	Temp(C)	14.5	14.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.7				9.6
	Cond.	546				509
	Temp(C)	14.5	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890392

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/23/89 at: 1415

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	7	10	10	10	100
65	0	0	4	4	4	40
40	0	0	0	1	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 64.3 %

95% fid. limits : 48.6 - 84.9 %

Comments :

SLOPE of Mortality Curve : 4.3
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890392

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0	8.2			
	O2 ppm	10.8	9.8			
	Cond.	350	346			
	Temp(C)	15.0	14.0	14.0	14.5	
65	pH	7.9				8.3
	O2 ppm	10.4				9.8
	Cond.	421				423
	Temp(C)	15.0	14.0	14.0	14.5	14.0
40	pH	7.8				8.5
	O2 ppm	9.8				9.9
	Cond.	472				468
	Temp(C)	15.0	14.0	14.0	14.5	14.0
20	pH	7.8				8.5
	O2 ppm	9.6				9.6
	Cond.	510				507
	Temp(C)	15.0	14.0	14.0	14.5	14.0
10	pH	7.8				8.5
	O2 ppm	9.4				9.6
	Cond.	531				528
	Temp(C)	15.0	14.0	14.0	14.5	14.0
5	pH	7.8				8.5
	O2 ppm	9.3				9.5
	Cond.	543				549
	Temp(C)	15.0	14.0	14.0	14.5	14.0
Control	pH	7.9				8.5
	O2 ppm	9.3				9.8
	Cond.	552				553
	Temp(C)	15.0	14.0	14.0	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890277

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890277

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.6
	O2 ppm	8.8					11.0
	Cond.	560					541
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
10	pH	7.9					8.5
	O2 ppm	9.1					10.8
	Cond.	538					529
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
20	pH	7.9					8.6
	O2 ppm	9.2					10.9
	Cond.	521					510
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
40	pH	8.0					8.5
	O2 ppm	9.4					10.9
	Cond.	482					477
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
65	pH	8.0					8.4
	O2 ppm	9.7					10.9
	Cond.	432					429
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
100	pH	8.3					8.2
	O2 ppm	10.0					11.0
	Cond.	348					360
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890228

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89
Tested : 10/20/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	4	10	10	10	100

96 Hour LC50 : 81.0 %

95% fid. limits : 65.0 - 100.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST PARAMETERS

Sample Number: 03890228

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					8.4
	O2 ppm	8.7					9.2
	Cond.	573					547
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
10	pH	7.7					8.4
	O2 ppm	8.7					9.2
	Cond.	551					542
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
20	pH	7.7					8.4
	O2 ppm	8.8					9.1
	Cond.	530					526
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
40	pH	7.7					8.3
	O2 ppm	8.9					9.1
	Cond.	485					489
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
65	pH	7.6					8.2
	O2 ppm	9.3					9.1
	Cond.	445					439
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
100	pH	7.6			7.6		
	O2 ppm	9.9			8.8		
	Cond.	366			368		
	Temp(C)	14.0	14.5	14.0	15.0		

Du Pont Canada Inc. (continued)

03900234 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

waste site

process effluent

combined effluent

03890229 sampled: 10/17/89 LC50: 51.0 %
95% fid. limits: 40.0 - 65.0 %
comments:

03890278 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890393 sampled: 12/19/89 LC50: 42.7 %
95% fid. limits: 33.9 - 53.7 % slope: 6.1
comments:

03900047 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900145 sampled: 02/20/90 LC50: 56.8 %
95% fid. limits: 47.6 - 67.7 % slope: 8.4
comments:

01900023 sampled: 02/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900235 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

rain gauge

intake water

COMPANY: Du Pont Canada Inc., Kingston (80101)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for twelve trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. Three of the six samples collected from combined effluent (control point 0700) were determined to have been acutely lethal to test fish. Statistically, the percentage effluent to kill 50 % of the test fish by the end of four days exposure, for each sample, were 81.0 % (October), 64.3 % (December), and 86.4 % (February). The other three samples were determined to have been non-acutely lethal.
Three of the six samples collected from the combined effluent (control point 1100) were determined to have been acutely lethal to test fish. Statistically, the percentage effluent to kill 50 % of the test fish by the end of four days exposure, for each sample, were 51.0 % (October), 42.7 % (December) and 56.8 % (February). One sample 96 hour LC50 was > 100 % and the other two samples were determined to have been non-acutely lethal. An audit sample collected from combined effluent (control point 1100) was tested by O.M.E. laboratory and its 96 hour LC50 was > 100 %.

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process effluent

combined effluent

03890228 sampled: 10/17/89 LC50: 81.0 %
95% fid. limits: 65.0 - 100.0 %
comments:

03890277 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890392 sampled: 12/19/89 LC50: 64.3 %
95% fid. limits: 48.6 - 84.9 % slope: 4.3
comments:

03900048 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900146 sampled: 02/20/90 LC50: 86.4 %
95% fid. limits: 76.1 - 98.1 % slope: 13.3
comments:

TOXICITY TEST REPORT Sample: 02900017

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1502

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	1	8
60	0	0	2	5	41
30	0	0	1	4	33
15	0	0	2	4	33
5	0	0	0	0	0
Control	0	1	1	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/bell-shaped lethality curve

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900017

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.7			7.9
	O2 ppm	9.2			8.2
	Cond.	291			295
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			8.0
	O2 ppm	9.3			8.3
	Cond.	303			304
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.9			8.0
	O2 ppm	9.3			8.3
	Cond.	310			310
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			8.0
	O2 ppm	9.3			8.2
	Cond.	312			314
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.9			7.9
	O2 ppm	9.3			8.3
	Cond.	314			314
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.9			7.8
	O2 ppm	9.2			8.3
	Cond.	305			307
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900055

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/14/90 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900055

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.0	8.0
	O2 ppm	9.0	8.3
	Cond.	280	290
	Temp(C)	20.0	20.0
50	pH	8.2	8.1
	O2 ppm	8.8	8.4
	Cond.	420	418
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	8.8	8.8
	Cond.	470	465
	Temp(C)	20.0	20.0
13	pH	8.3	8.3
	O2 ppm	8.8	9.0
	Cond.	500	490
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	8.8	9.2
	Cond.	520	500
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	8.8	9.2
	Cond.	520	510
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 02900016

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	1	8
60	0	0	1	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	1	1	1	8
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : None

TOXICITY TEST PARAMETERS

Sample Number: 02900016

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	48:00
100	pH	7.6			7.9
	O2 ppm	9.4			8.0
	Cond.	327			330
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.8			7.9
	O2 ppm	9.4			8.1
	Cond.	325			325
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.8			8.0
	O2 ppm	9.3			8.2
	Cond.	320			319
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			8.0
	O2 ppm	9.4			8.3
	Cond.	318			320
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	7.8			8.0
	O2 ppm	9.3			8.3
	Cond.	316			321
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	7.8			8.0
	O2 ppm	9.2			8.3
	Cond.	305			309
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890126

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:30	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890126

TEST CONC. %		ELAPSED TIME 00:00	48:30
100	pH	8.0	8.0
	O2 ppm	9.0	8.6
	Cond.	270	285
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.0	8.9
	Cond.	384	402
	Temp(C)	20.0	20.0
26	pH	8.1	8.3
	O2 ppm	9.0	9.2
	Cond.	438	450
	Temp(C)	20.0	20.0
13	pH	8.1	8.3
	O2 ppm	9.0	9.3
	Cond.	460	470
	Temp(C)	20.0	20.0
6	pH	8.1	8.3
	O2 ppm	9.0	9.3
	Cond.	470	482
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	9.4	9.3
	Cond.	488	495
	Temp(C)	20.0	20.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900017

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/16/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:00	45:30	76:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900017

TEST CONC. %		ELAPSED TIME 00:00	21:00	45:30	76:00	96:00
100	pH	9.0	8.6	8.5	8.3	8.0
	O2 ppm	8.7	8.2	8.9	9.0	9.2
	Cond.	4010				3920
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	9.0	8.6	8.6	8.3	8.0
	O2 ppm	8.5	8.2	9.0	9.0	8.9
	Cond.	4190				3900
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.6	7.5	7.4
	O2 ppm	10.0	8.7	9.0	9.4	9.2
	Cond.	181				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.5	7.5	7.4
	O2 ppm	10.0	8.5	8.7	9.2	9.6
	Cond.	180				182
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900041

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/21/90 at: 1900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	16:00	44:50	63:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900041

TEST CONC. %		ELAPSED TIME 00:00	16:00	44:50	63:30	96:00
100	pH	7.2				8.0
	O2 ppm	8.0				10.1
	Cond.	4080				4090
	Temp(C)	15.0				15.0
100	pH	7.1				7.9
	O2 ppm	8.2				9.6
	Cond.	1060				4090
	Temp(C)	15.0				15.0
Control	pH	7.5				7.4
	O2 ppm	10.4				10.2
	Cond.	170				188
	Temp(C)	15.0				15.0
Control	pH	7.6				7.4
	O2 ppm	10.3				10.2
	Cond.	169				188
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900061

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/21/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:25	43:15	75:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900061

TEST CONC. %		ELAPSED TIME 00:00	96:00
100	pH	8.0	8.5
	O2 ppm	10.0	9.8
	Cond.	4190	4180
	Temp(C)	15.0	15.0
100	pH	8.0	8.4
	O2 ppm	10.2	9.7
	Cond.	4190	4160
	Temp(C)	15.0	15.0
Control	pH	7.5	7.7
	O2 ppm	12.1	9.8
	Cond.	166	189
	Temp(C)	15.0	15.0
Control	pH	7.6	7.8
	O2 ppm	11.7	9.8
	Cond.	168	182
	Temp(C)	15.0	15.0

TOXICITY TEST REPORT Sample: 05890086

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/17/89 at: 1135

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	22:05	47:05	70:05	97:05	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0.
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890086

TEST CONC. %		ELAPSED TIME 00:00	22:05	47:05	70:05	97:05
100	pH	6.5	7.4	7.4	7.5	7.4
	O2 ppm	7.6	8.6	8.5	9.1	9.5
	Cond.	1890				1720
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.6	7.3	7.4	7.4	7.3
	O2 ppm	8.4	8.4	8.5	9.1	9.5
	Cond.	1450				1390
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	6.7	7.4	7.4	7.4	7.4
	O2 ppm	8.4	8.8	8.8	9.3	9.4
	Cond.	1100				1080
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	6.8	7.3	7.4	7.4	7.4
	O2 ppm	8.4	8.3	8.4	8.8	9.4
	Cond.	590				600
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	6.9	7.1	7.4	7.4	7.3
	O2 ppm	8.3	7.2	8.8	8.9	9.4
	Cond.	360				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.0	7.3	7.4	7.4	7.4
	O2 ppm	8.4	8.5	8.5	8.7	9.2
	Cond.	185				191
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4
	O2 ppm	8.6	8.2	8.1	8.5	8.9
	Cond.	167				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.1	7.2	7.2	7.4
	O2 ppm	8.8	7.7	8.2	8.5	9.0
	Cond.	170				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890112

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:40	51:00	76:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890112

TEST CONC. %		ELAPSED TIME 00:00	23:40	51:00	76:30	96:00
100	pH	7.0	7.8	8.0	8.2	8.1
	O2 ppm	8.2	10.1	9.6	10.0	10.1
	Cond.	2170				2100
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.0	7.9	7.9	8.2	8.1
	O2 ppm	8.6	9.9	9.6	10.1	9.9
	Cond.	1720				1650
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.1	7.9	7.9	8.1	8.0
	O2 ppm	9.0	10.0	9.6	10.0	10.0
	Cond.	1310				1300
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.8	7.8	8.1	8.0
	O2 ppm	9.4	9.9	9.5	9.9	9.9
	Cond.	650				710
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.7	7.6	7.9	7.8
	O2 ppm	9.8	9.9	9.4	9.5	9.7
	Cond.	411				405
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.1	7.7	7.6	7.8	7.7
	O2 ppm	10.0	9.8	9.4	10.1	10.2
	Cond.	195				192
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.7	7.7	7.7
	O2 ppm	9.7	10.4	9.8	10.2	10.2
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.6	7.9	7.8	7.7
	O2 ppm	9.9	10.3	9.8	10.4	10.4
	Cond.	171				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890133

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	19:30	43:30	72:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890133

TEST CONC. %		ELAPSED TIME 00:00	19:30	43:30	72:30	96:00
100	pH	6.7	7.5	7.9	7.8	7.9
	O2 ppm	8.2	8.2	9.2	8.1	9.4
	Cond.	2080				2120
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.9	7.6	8.0	7.9	8.0
	O2 ppm	8.8	8.7	9.8	9.4	9.5
	Cond.	1600				1650
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.0	7.6	8.0	7.8	7.8
	O2 ppm	9.1	9.6	9.6	9.6	9.3
	Cond.	1305				1310
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.6	8.0	7.8	7.8
	O2 ppm	9.8	8.8	9.6	9.2	9.3
	Cond.	710				780
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	7.6	8.0	7.7	7.8
	O2 ppm	10.2	9.0	9.4	9.2	9.2
	Cond.	408				418
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.8	7.6	7.9	7.8	7.8
	O2 ppm	10.4	9.6	9.3	9.2	9.4
	Cond.	195				205
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.6	7.8
	O2 ppm	10.5	10.0	9.3	9.2	9.8
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.7	7.8
	O2 ppm	10.4	9.9	9.4	9.4	9.6
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900013

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/16/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	21:00	45:30	76:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900013

TEST CONC. %		ELAPSED TIME 00:00	21:00 45:30 76:00 96:00
100	pH	7.0	7.9
	O2 ppm	8.3	9.5
	Cond.	1870	1780
	Temp(C)	15.0	15.0
75	pH	7.1	7.7
	O2 ppm	8.8	9.5
	Cond.	1480	1410
	Temp(C)	15.0	15.0
56	pH	7.2	7.7
	O2 ppm	9.2	9.5
	Cond.	1120	1110
	Temp(C)	15.0	15.0
25	pH	7.3	7.5
	O2 ppm	9.8	9.6
	Cond.	650	650
	Temp(C)	15.0	15.0
10	pH	7.5	7.5
	O2 ppm	9.9	9.6
	Cond.	350	338
	Temp(C)	15.0	15.0
1	pH	7.7	7.5
	O2 ppm	10.1	9.4
	Cond.	193	196
	Temp(C)	15.0	15.0
Control	pH	7.7	7.4
	O2 ppm	10.0	9.2
	Cond.	181	181
	Temp(C)	15.0	15.0
Control	pH	7.7	7.4
	O2 ppm	10.0	9.6
	Cond.	180	181
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900039

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/21/90 at: 1900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	16:00	44:50	63:30	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900039

TEST CONC. %		ELAPSED TIME 00:00	16:00	44:50	63:30	96:00
100	pH	7.2				7.9
	O2 ppm	8.9				9.5
	Cond.	2130				1780
	Temp(C)	15.0				15.0
75	pH	7.3				7.7
	O2 ppm	9.2				9.5
	Cond.	1690				1410
	Temp(C)	15.0				15.0
56	pH	7.3				7.7
	O2 ppm	9.6				9.5
	Cond.	880				1110
	Temp(C)	15.0				15.0
25	pH	7.4				7.5
	O2 ppm	9.9				9.6
	Cond.	760				650
	Temp(C)	15.0				15.0
10	pH	7.5				7.5
	O2 ppm	10.2				9.6
	Cond.	382				338
	Temp(C)	15.0				15.0
1	pH	7.5				7.5
	O2 ppm	10.0				9.4
	Cond.	191				196
	Temp(C)	15.0				15.0
Control	pH	7.5				7.4
	O2 ppm	10.4				9.2
	Cond.	170				181
	Temp(C)	15.0				15.0
Control	pH	7.6				7.4
	O2 ppm	10.3				9.6
	Cond.	169				181
	Temp(C)	15.0				15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900058

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/20/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	23:25	43:15	75:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900058

TEST CONC. %		ELAPSED TIME 00:00	23:25 43:15 75:00 96:00
100	pH	7.0	7.7
	O2 ppm	9.2	9.7
	Cond.	1700	1710
	Temp(C)	15.0	15.0
75	pH	7.1	7.7
	O2 ppm	9.7	9.6
	Cond.	1380	1390
	Temp(C)	15.0	15.0
56	pH	7.3	7.6
	O2 ppm	10.4	9.6
	Cond.	1110	1090
	Temp(C)	15.0	15.0
25	pH	7.4	7.6
	O2 ppm	11.0	9.8
	Cond.	610	650
	Temp(C)	15.0	15.0
10	pH	7.5	7.5
	O2 ppm	11.3	9.6
	Cond.	329	342
	Temp(C)	15.0	15.0
1	pH	7.5	7.4
	O2 ppm	11.4	8.8
	Cond.	180	220
	Temp(C)	15.0	15.0
Control	pH	7.5	7.7
	O2 ppm	12.1	9.8
	Cond.	166	189
	Temp(C)	15.0	15.0
Control	pH	7.6	7.8
	O2 ppm	11.7	9.8
	Cond.	168	182
	Temp(C)	15.0	15.0

COMPANY: Polysar Limited, Sarnia (30007)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for forty Daphnia magna acute lethality toxicity tests conducted on samples of effluent collected between October 1989 and March 1990 were submitted by Polysar Limited of Sarnia. The samples generally had little or no acute toxicity to Daphnia for all eight outfalls being examined. The exceptions were three samples of combined effluent from outfalls #200, 500 and 1100 collected in Febrary or March. These samples were acutely toxic to Daphnia with LC50s ranging from 2.6 to 59.7%.

The four samples from once through cooling water outfalls #1400 and 1600 were not acutely lethal to Daphnia.

The six samples from Batch effluent #1700 were not acutely lethal to Daphnia. Three of six samples of process effluent #1800 were nonlethal, and three samples had only one or two neonates die during the duration of the test.

Four samples from combined effluent #200 were not acutely lethal to Daphnia, and one sample had a 48 h LC50 > 100%. One sample collected in March was very toxic to Daphnia with an 48 h LC50 = 2.6%. Similarly, three samples from combined effluent #1100 were nonlethal, two samples had LC50s > 100% and the March sample was acutely toxic to Daphnia with an LC50 = 59.7%. Four samples from combined effluent #500 were nonlethal, and one sample had an LC50 > 100%. The toxic sample in this case was collected in February and had a 48 h LC50 = 6%. There was no change in pH, or conductivity in any of the toxic samples to give a clue as to the cause of their toxicity. Such deviations from the normal effluent quality may have been caused by a system failure, or by routine pipe cleaning maintenance. Five samples from combined effluent #400 were nonlethal and one sample had two mortalities in the 100% effluent only.

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combined effluent

05890083 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890096 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890122 sampled: 12/04/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

05900001 sampled: 01/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Control Mortality <10%

05900023 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900049 sampled: 03/05/90 LC50: 2.6 %
95% fid. limits: 1.9 - 3.5 %
comments:

process effluent

combined effluent

05890081 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890103 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890123 sampled: 12/11/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900016 sampled: 01/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Duplicate also tested

05900029 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900068 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890085 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890114 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

05890132 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900014 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900038 sampled: 02/19/90 LC50: 0.0 - 6.0 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900060 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

emergency overflow

process effluent

process effluent

process effluent

combined effluent

05890087 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890113 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890131 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900012 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900040 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900059 sampled: 03/19/90 LC50: 59.7 %
95% fid. limits: 50.5 - 70.7 %
comments:

emergency overflow

storm water

OT cooling water

05890095 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900022 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

storm water

OT cooling water

05890097 sampled: 11/06/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900024 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Batch

05890091 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890115 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890134 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900017 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900041 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900061 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

05890086 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890112 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890133 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900013 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Duplicate Tested

05900039 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900058 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

storm water

storm water

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 05890083

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890083

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	7.9	7.8
	O2 ppm	9.6	9.0
	Cond.	188	200
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	9.2	8.9
	Cond.	362	390
	Temp(C)	20.0	20.0
26	pH	8.1	8.0
	O2 ppm	9.2	8.2
	Cond.	440	460
	Temp(C)	20.0	20.0
13	pH	8.1	8.0
	O2 ppm	9.2	9.0
	Cond.	480	495
	Temp(C)	20.0	20.0
6	pH	8.0	8.0
	O2 ppm	9.2	9.0
	Cond.	482	500
	Temp(C)	20.0	20.0
Control	pH	8.0	8.0
	O2 ppm	9.6	9.4
	Cond.	500	505
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890096

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/08/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:35	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890096

TEST CONC. %		ELAPSED TIME 00:00	48:35
100	pH	7.7	8.0
	O2 ppm	9.2	8.5
	Cond.	198	201
	Temp(C)	20.0	20.0
50	pH	7.9	8.1
	O2 ppm	9.1	8.6
	Cond.	349	349
	Temp(C)	20.0	20.0
26	pH	8.0	8.2
	O2 ppm	9.2	8.7
	Cond.	420	411
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.3	8.7
	Cond.	452	445
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	9.3	8.9
	Cond.	470	471
	Temp(C)	20.0	20.0
Control	pH	8.0	8.1
	O2 ppm	9.4	9.3
	Cond.	465	463
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890122

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/04/89
Received : 12/04/89
Tested : 12/07/89 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	1	8
50	0	2	16
26	0	0	0
13	0	1	8
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890122

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.7	7.9
	O2 ppm	8.8	9.2
	Cond.	202	210
	Temp(C)	20.0	20.0
50	pH	8.0	8.1
	O2 ppm	8.8	8.9
	Cond.	349	350
	Temp(C)	20.0	20.0
26	pH	8.0	8.1
	O2 ppm	8.8	9.0
	Cond.	418	418
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	9.0	9.2
	Cond.	452	452
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.2	9.2
	Cond.	482	480
	Temp(C)	20.0	20.0
Control	pH	8.2	8.1
	O2 ppm	9.2	9.2
	Cond.	490	495
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900001

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 01/01/90
Received : 01/01/90
Tested : 01/02/90 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Control Mortality <10%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900001

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	8.0
	O2 ppm	9.8	9.4
	Cond.	208	223
	Temp(C)	20.0	20.0
50	pH	8.3	8.1
	O2 ppm	9.6	9.3
	Cond.	352	360
	Temp(C)	20.0	20.0
26	pH	8.4	8.2
	O2 ppm	9.5	9.3
	Cond.	420	424
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.6	9.3
	Cond.	450	455
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.4	9.2
	Cond.	469	470
	Temp(C)	20.0	20.0
Control	pH	8.3	8.1
	O2 ppm	9.3	9.2
	Cond.	480	480
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900023

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/05/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:50	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900023

TEST CONC. %		ELAPSED TIME 00:00	48:50
100	pH	7.9	7.8
	O2 ppm	10.1	9.0
	Cond.	200	210
	Temp(C)	20.0	20.0
50	pH	8.1	8.0
	O2 ppm	9.2	8.8
	Cond.	358	360
	Temp(C)	20.0	20.0
26	pH	8.2	8.1
	O2 ppm	9.1	8.8
	Cond.	430	428
	Temp(C)	20.0	20.0
13	pH	8.2	8.1
	O2 ppm	9.1	8.7
	Cond.	466	460
	Temp(C)	20.0	20.0
6	pH	8.2	8.1
	O2 ppm	9.2	8.8
	Cond.	484	480
	Temp(C)	20.0	20.0
Control	pH	8.2	8.1
	O2 ppm	9.4	8.9
	Cond.	500	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900049

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/05/90
Received : 03/05/90
Tested : 03/05/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	12	100
50	0	12	100
26	0	12	100
13	0	12	100
6	0	12	100
2	0	4	33
1	0	0	0
1	0	0	0
Control	0	0	0

48 Hour LC50 : 2.6 %

95% fid. limits : 1.9 - 3.5 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Karber

TOXICITY TEST PARAMETERS

Sample Number: 05900049

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.2	8.2
	O2 ppm	7.8	9.0
	Cond.	212	224
	Temp(C)	20.0	20.0
50	pH	8.3	8.4
	O2 ppm	8.4	9.0
	Cond.	360	374
	Temp(C)	20.0	20.0
26	pH	8.4	8.4
	O2 ppm	8.6	9.0
	Cond.	428	436
	Temp(C)	20.0	20.0
13	pH	8.4	8.4
	O2 ppm	8.7	9.1
	Cond.	460	478
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	8.8	9.2
	Cond.	480	490
	Temp(C)	20.0	20.0
2	pH	8.3	8.5
	O2 ppm	8.6	9.1
	Cond.	510	470
	Temp(C)	20.0	20.0
1	pH	8.3	8.5
	O2 ppm	8.8	9.2
	Cond.	510	480
	Temp(C)	20.0	20.0
0	pH	8.3	8.5
	O2 ppm	9.0	9.2
	Cond.	498	480
	Temp(C)	20.0	20.0
Control	pH	8.3	8.5
	O2 ppm	9.2	9.4
	Cond.	510	480
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890081

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890081

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	7.8
	O2 ppm	9.5	9.0
	Cond.	234	258
	Temp(C)	20.0	20.0
50	pH	7.9	7.9
	O2 ppm	9.4	8.9
	Cond.	380	400
	Temp(C)	20.0	20.0
26	pH	8.0	8.0
	O2 ppm	9.3	9.0
	Cond.	440	462
	Temp(C)	20.0	20.0
13	pH	8.0	8.0
	O2 ppm	9.4	9.4
	Cond.	470	490
	Temp(C)	20.0	20.0
6	pH	8.0	8.0
	O2 ppm	9.4	9.2
	Cond.	498	502
	Temp(C)	20.0	20.0
Control	pH	8.0	7.9
	O2 ppm	9.6	9.3
	Cond.	500	510
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890103

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/13/89
Received : 11/13/89
Tested : 11/13/89 at: 1145

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:25	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890103

TEST CONC. %		ELAPSED TIME 00:00	49:25
100	pH	7.8	7.8
	O2 ppm	9.8	8.8
	Cond.	212	232
	Temp(C)	20.0	20.0
50	pH	8.0	7.9
	O2 ppm	9.6	8.9
	Cond.	350	370
	Temp(C)	20.0	20.0
26	pH	8.0	8.0
	O2 ppm	9.6	8.9
	Cond.	418	440
	Temp(C)	20.0	20.0
13	pH	8.1	8.0
	O2 ppm	9.5	8.9
	Cond.	450	478
	Temp(C)	20.0	20.0
6	pH	8.0	8.0
	O2 ppm	9.5	9.0
	Cond.	468	492
	Temp(C)	20.0	20.0
Control	pH	8.1	8.0
	O2 ppm	9.4	9.1
	Cond.	478	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890123

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/11/89
Received : 12/11/89
Tested : 12/12/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	2	16
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890123

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.9	7.7
	O2 ppm	9.5	9.2
	Cond.	205	215
	Temp(C)	20.0	20.0
50	pH	8.2	7.9
	O2 ppm	9.2	9.5
	Cond.	350	365
	Temp(C)	20.0	20.0
26	pH	8.3	8.0
	O2 ppm	9.3	9.4
	Cond.	420	430
	Temp(C)	20.0	20.0
13	pH	8.3	8.0
	O2 ppm	9.3	9.3
	Cond.	450	465
	Temp(C)	20.0	20.0
6	pH	8.4	7.9
	O2 ppm	9.4	9.0
	Cond.	452	480
	Temp(C)	20.0	20.0
Control	pH	8.2	7.9
	O2 ppm	9.6	9.5
	Cond.	205	485
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900016

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/08/90
Received : 01/08/90
Tested : 01/08/90 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:10	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Duplicate also tested

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900016

TEST CONC. %		ELAPSED TIME 00:00	49:10
100	pH	7.8	8.0
	O2 ppm	9.5	8.8
	Cond.	188	222
	Temp(C)	20.0	20.0
50	pH	8.0	8.1
	O2 ppm	9.2	8.9
	Cond.	360	370
	Temp(C)	20.0	20.0
26	pH	8.1	8.2
	O2 ppm	9.2	9.0
	Cond.	412	438
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.1	9.0
	Cond.	420	470
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.2	8.8
	Cond.	470	486
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	9.2	9.2
	Cond.	488	488
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900029

TEST CONDITIONS

Company	: Polysar Limited Sarnia, ONT (30007)
Region	: Southwest
Industry	: Organic Chemical
Control point	: combined effluent, (400)
Laboratory	: Pollutech
Sampling Method	: Grab
Sampled By	: C.Ferguson
Date Collected	: 02/12/90
Received	: 02/12/90
Tested	: 02/12/90 at: 1400
Type of Bioassay	: STATIC (Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)
Test Animal	: D. magna
Weight(gm)	:
Length(mm)	:

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900029

TEST CONC. %		ELAPSED TIME 00:00	49:00
100	pH	7.9	8.0
	O2 ppm	9.4	8.4
	Cond.	225	232
	Temp(C)	20.0	20.0
50	pH	8.1	8.2
	O2 ppm	9.1	8.5
	Cond.	365	370
	Temp(C)	20.0	20.0
26	pH	8.2	8.3
	O2 ppm	9.0	8.6
	Cond.	432	432
	Temp(C)	20.0	20.0
13	pH	8.2	8.4
	O2 ppm	9.1	8.7
	Cond.	468	468
	Temp(C)	20.0	20.0
6	pH	8.2	8.4
	O2 ppm	9.2	8.7
	Cond.	485	488
	Temp(C)	20.0	20.0
Control	pH	8.2	8.4
	O2 ppm	9.2	9.0
	Cond.	490	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900068

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/26/90
Received : 03/26/90
Tested : 03/27/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900068

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	7.8	7.9
	O2 ppm	9.4	9.2
	Cond.	212	218
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.3	9.2
	Cond.	360	370
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	9.2	9.2
	Cond.	430	440
	Temp(C)	20.0	20.0
13	pH	8.2	8.1
	O2 ppm	9.3	9.2
	Cond.	460	468
	Temp(C)	20.0	20.0
6	pH	8.2	8.1
	O2 ppm	9.3	9.2
	Cond.	480	490
	Temp(C)	20.0	20.0
Control	pH	8.2	8.1
	O2 ppm	9.4	9.2
	Cond.	490	498
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890085

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/16/89 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:10	TOTAL MORTALITY %
100	0	2	16
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890085

TEST CONC. %		ELAPSED TIME 00:00	48:10
100	pH	8.3	8.0
	O2 ppm	9.0	9.4
	Cond.	200	215
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	8.7	9.4
	Cond.	350	360
	Temp(C)	20.0	20.0
26	pH	7.9	8.1
	O2 ppm	8.6	9.3
	Cond.	415	440
	Temp(C)	20.0	20.0
13	pH	7.9	8.1
	O2 ppm	8.7	9.4
	Cond.	450	470
	Temp(C)	20.0	20.0
6	pH	7.7	8.1
	O2 ppm	8.6	9.4
	Cond.	475	490
	Temp(C)	20.0	20.0
Control	pH	7.7	8.0
	O2 ppm	8.8	9.2
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890114

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/20/89 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:10	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890114

TEST CONC. %		ELAPSED TIME 00:00	48:10
100	pH	8.1	8.1
	O2 ppm	10.3	8.7
	Cond.	198	206
	Temp(C)	20.0	20.0
50	pH	8.2	8.2
	O2 ppm	9.8	8.7
	Cond.	350	358
	Temp(C)	20.0	20.0
26	pH	8.2	8.2
	O2 ppm	9.6	8.7
	Cond.	420	426
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	9.4	8.8
	Cond.	456	462
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	9.4	8.8
	Cond.	470	480
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	9.6	9.0
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890132

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/19/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890132

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.3	8.2
	O2 ppm	10.4	8.8
	Cond.	202	229
	Temp(C)	20.0	20.0
50	pH	8.3	8.3
	O2 ppm	9.6	8.6
	Cond.	352	372
	Temp(C)	20.0	20.0
26	pH	8.4	8.3
	O2 ppm	9.4	8.8
	Cond.	420	438
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.3	8.9
	Cond.	454	472
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.2	8.9
	Cond.	464	470
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.4	9.2
	Cond.	480	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900014

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900014

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.2	7.9
	O2 ppm	10.1	9.2
	Cond.	206	210
	Temp(C)	20.0	20.0
50	pH	8.2	8.2
	O2 ppm	9.1	9.2
	Cond.	330	362
	Temp(C)	20.0	20.0
26	pH	8.2	8.2
	O2 ppm	8.9	9.1
	Cond.	434	429
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	8.8	9.2
	Cond.	470	462
	Temp(C)	20.0	20.0
6	pH	8.2	8.2
	O2 ppm	9.0	9.2
	Cond.	490	492
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.0	9.1
	Cond.	500	495
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05900038

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/19/90 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	12	100
50	0	12	100
26	0	12	100
13	0	12	100
6	0	12	100
Control	0	0	0

48 Hour LC50 : 0.0 - 6.0 %

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900038

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.4	8.2
	O2 ppm	10.2	9.3
	Cond.	214	222
	Temp(C)	20.0	20.0
50	pH	8.4	8.3
	O2 ppm	9.4	9.4
	Cond.	360	360
	Temp(C)	20.0	20.0
26	pH	8.4	8.4
	O2 ppm	9.2	9.1
	Cond.	428	420
	Temp(C)	20.0	20.0
13	pH	8.6	8.4
	O2 ppm	9.2	9.2
	Cond.	460	452
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	9.2	9.1
	Cond.	478	469
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.4	9.2
	Cond.	4990	492
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900060

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/19/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900060

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.3	8.1
	O2 ppm	10.4	9.2
	Cond.	200	206
	Temp(C)	20.0	20.0
50	pH	8.4	8.2
	O2 ppm	9.4	9.0
	Cond.	360	360
	Temp(C)	20.0	20.0
26	pH	8.4	8.2
	O2 ppm	9.2	8.9
	Cond.	430	430
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.2	8.9
	Cond.	460	462
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.2	8.9
	Cond.	470	482
	Temp(C)	20.0	20.0
Control	pH	8.4	8.2
	O2 ppm	9.2	8.9
	Cond.	510	499
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890087

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/16/89 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:55	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890087

TEST CONC. %		ELAPSED TIME 00:00	48:55
100	pH	7.1	7.8
	O2 ppm	9.2	8.5
	Cond.	220	224
	Temp(C)	20.0	20.0
50	pH	8.0	7.9
	O2 ppm	8.8	8.9
	Cond.	380	375
	Temp(C)	20.0	20.0
25	pH	8.0	8.0
	O2 ppm	9.4	9.0
	Cond.	440	440
	Temp(C)	20.0	20.0
13	pH	8.0	8.0
	O2 ppm	8.4	9.2
	Cond.	460	475
	Temp(C)	20.0	20.0
6	pH	8.0	8.0
	O2 ppm	8.4	9.1
	Cond.	480	495
	Temp(C)	20.0	20.0
Control	pH	7.8	8.0
	O2 ppm	8.8	9.1
	Cond.	490	495
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890113

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/20/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:05	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890113

TEST CONC. %		ELAPSED TIME 00:00	48:05
100	pH	7.9	8.0
	O2 ppm	10.4	8.7
	Cond.	274	282
	Temp(C)	20.0	20.0
50	pH	8.1	8.1
	O2 ppm	9.8	8.7
	Cond.	386	390
	Temp(C)	20.0	20.0
26	pH	8.1	8.2
	O2 ppm	9.6	8.7
	Cond.	434	436
	Temp(C)	20.0	20.0
13	pH	8.1	8.2
	O2 ppm	9.6	8.8
	Cond.	460	462
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	9.5	8.8
	Cond.	472	472
	Temp(C)	20.0	20.0
Control	pH	8.1	8.3
	O2 ppm	9.6	9.1
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890131

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:15	TOTAL MORTALITY %
100	0	1	8
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890131

TEST CONC. %		ELAPSED TIME 00:00	48:15
100	pH	8.1	8.1
	O2 ppm	9.0	9.0
	Cond.	218	234
	Temp(C)	20.0	20.0
50	pH	8.2	8.2
	O2 ppm	9.6	8.9
	Cond.	360	380
	Temp(C)	20.0	20.0
26	pH	8.4	8.3
	O2 ppm	9.4	8.9
	Cond.	420	440
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.2	8.9
	Cond.	452	474
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	9.2	8.9
	Cond.	470	498
	Temp(C)	20.0	20.0
Control	pH	8.4	8.4
	O2 ppm	9.4	8.9
	Cond.	480	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900012

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1345

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	1	8
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900012

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.8	7.8
	O2 ppm	10.0	9.0
	Cond.	266	272
	Temp(C)	20.0	20.0
50	pH	8.1	7.9
	O2 ppm	9.1	9.1
	Cond.	390	385
	Temp(C)	20.0	20.0
26	pH	8.2	8.2
	O2 ppm	8.9	9.1
	Cond.	450	440
	Temp(C)	20.0	20.0
13	pH	8.2	8.3
	O2 ppm	8.8	9.2
	Cond.	478	470
	Temp(C)	20.0	20.0
6	pH	8.2	8.2
	O2 ppm	8.8	9.2
	Cond.	490	482
	Temp(C)	20.0	20.0
Control	pH	8.2	8.3
	O2 ppm	9.0	9.2
	Cond.	500	495
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900040

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/20/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900040

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.0	8.1
	O2 ppm	10.3	9.3
	Cond.	312	300
	Temp(C)	20.0	20.0
50	pH	8.2	8.3
	O2 ppm	9.4	9.2
	Cond.	410	400
	Temp(C)	20.0	20.0
26	pH	8.3	8.3
	O2 ppm	9.2	9.2
	Cond.	450	440
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.1	9.2
	Cond.	472	460
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	9.1	9.2
	Cond.	480	470
	Temp(C)	20.0	20.0
Control	pH	8.4	8.4
	O2 ppm	9.4	9.2
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900059

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/19/90 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	12	100
50	0	3	25
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 59.7 %

95% fid. limits : 50.5 - 70.7 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Karber

TOXICITY TEST PARAMETERS

Sample Number: 05900059

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	8.1	7.3
	O2 ppm	10.6	8.8
	Cond.	280	290
	Temp(C)	20.0	20.0
50	pH	8.3	8.1
	O2 ppm	9.6	8.8
	Cond.	398	398
	Temp(C)	20.0	20.0
26	pH	8.3	8.2
	O2 ppm	9.4	8.8
	Cond.	448	446
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.4	8.9
	Cond.	474	470
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.4	8.9
	Cond.	488	470
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.4	9.0
	Cond.	510	500
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890095

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1400)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1625

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:05	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890095

TEST CONC. %		ELAPSED TIME 00:00	48:05
100	pH	7.9	8.0
	O2 ppm	9.3	8.7
	Cond.	195	196
	Temp(C)	20.0	20.0
50	pH	7.8	8.0
	O2 ppm	9.3	8.5
	Cond.	299	312
	Temp(C)	20.0	20.0
26	pH	7.8	8.0
	O2 ppm	9.2	8.6
	Cond.	350	360
	Temp(C)	20.0	20.0
13	pH	7.8	8.0
	O2 ppm	9.3	8.6
	Cond.	360	380
	Temp(C)	20.0	20.0
6	pH	7.7	8.0
	O2 ppm	9.3	8.6
	Cond.	395	388
	Temp(C)	20.0	20.0
Control	pH	7.7	8.0
	O2 ppm	9.4	8.6
	Cond.	400	400
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900022

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1400)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/06/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900022

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.7	7.9
	O2 ppm	9.6	8.4
	Cond.	195	218
	Temp(C)	20.0	20.0
50	pH	8.0	8.2
	O2 ppm	9.4	8.6
	Cond.	348	402
	Temp(C)	20.0	20.0
26	pH	8.1	8.2
	O2 ppm	9.4	8.6
	Cond.	420	452
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	9.4	8.6
	Cond.	448	470
	Temp(C)	20.0	20.0
6	pH	8.2	8.2
	O2 ppm	9.3	8.7
	Cond.	472	470
	Temp(C)	20.0	20.0
Control	pH	8.1	8.2
	O2 ppm	9.4	8.8
	Cond.	492	520
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890097

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1600)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/08/89 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:30	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 05890097

TEST CONC. %		ELAPSED TIME 00:00	48:30
100	pH	7.8	7.9
	O2 ppm	9.3	8.8
	Cond.	192	192
	Temp(C)	20.0	20.0
50	pH	7.9	8.0
	O2 ppm	9.2	8.9
	Cond.	349	345
	Temp(C)	20.0	20.0
26	pH	8.0	8.1
	O2 ppm	9.2	9.0
	Cond.	412	420
	Temp(C)	20.0	20.0
13	pH	8.0	8.1
	O2 ppm	9.1	9.2
	Cond.	450	452
	Temp(C)	20.0	20.0
6	pH	8.0	8.1
	O2 ppm	9.2	9.2
	Cond.	462	472
	Temp(C)	20.0	20.0
Control	pH	8.0	8.1
	O2 ppm	9.4	9.3
	Cond.	465	480
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900024

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1600)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:10	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900024

TEST CONC. %		ELAPSED TIME 00:00	48:10
100	pH	7.9	7.9
	O2 ppm	8.6	9.0
	Cond.	230	230
	Temp(C)	20.0	20.0
50	pH	8.1	8.0
	O2 ppm	8.7	9.2
	Cond.	380	370
	Temp(C)	20.0	20.0
26	pH	8.1	8.1
	O2 ppm	8.8	9.3
	Cond.	450	430
	Temp(C)	20.0	20.0
13	pH	8.1	8.1
	O2 ppm	8.8	9.2
	Cond.	482	460
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	8.8	9.2
	Cond.	500	490
	Temp(C)	20.0	20.0
Control	pH	8.2	8.1
	O2 ppm	8.8	9.2
	Cond.	520	510
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890091

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1610

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890091

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	7.5	7.8
	O2 ppm	8.4	6.8
	Cond.	3510	3310
	Temp(C)	20.0	20.0
50	pH	7.6	8.0
	O2 ppm	8.4	7.5
	Cond.	2070	2000
	Temp(C)	20.0	20.0
26	pH	7.8	7.9
	O2 ppm	8.8	7.9
	Cond.	1320	1280
	Temp(C)	20.0	20.0
13	pH	8.0	8.2
	O2 ppm	8.6	8.2
	Cond.	910	880
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	8.7	8.4
	Cond.	700	550
	Temp(C)	20.0	20.0
Control	pH	7.9	8.2
	O2 ppm	8.8	9.0
	Cond.	498	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890115

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1455

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:15	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890115

TEST CONC. %		ELAPSED TIME 00:00	49:15
100	pH	7.0	7.5
	O2 ppm	9.2	8.5
	Cond.	3820	4010
	Temp(C)	20.0	20.0
50	pH	7.4	7.8
	O2 ppm	9.5	8.6
	Cond.	2280	2310
	Temp(C)	20.0	20.0
26	pH	7.7	7.9
	O2 ppm	9.6	9.0
	Cond.	1420	1460
	Temp(C)	20.0	20.0
13	pH	7.4	8.0
	O2 ppm	9.8	9.0
	Cond.	980	990
	Temp(C)	20.0	20.0
6	pH	8.0	8.2
	O2 ppm	9.8	8.8
	Cond.	700	730
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	9.8	9.0
	Cond.	500	495
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890134

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890134

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	6.9	7.5
	O2 ppm	8.1	7.7
	Cond.	3900	4020
	Temp(C)	20.0	20.0
50	pH	7.5	7.9
	O2 ppm	8.7	8.3
	Cond.	2220	2300
	Temp(C)	20.0	20.0
26	pH	7.9	8.1
	O2 ppm	8.8	8.6
	Cond.	1400	1440
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	9.0	8.9
	Cond.	960	1000
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.1	9.0
	Cond.	700	700
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.3	9.3
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900017

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/16/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900017

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	9.0	8.6
	O2 ppm	8.7	8.6
	Cond.	4200	4410
	Temp(C)	20.0	20.0
50	pH	8.7	8.5
	O2 ppm	8.9	8.7
	Cond.	2490	2498
	Temp(C)	20.0	20.0
26	pH	8.5	8.4
	O2 ppm	9.2	9.0
	Cond.	1520	1580
	Temp(C)	20.0	20.0
13	pH	8.4	8.2
	O2 ppm	9.2	9.2
	Cond.	1020	1050
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.2	9.3
	Cond.	700	725
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.2	9.2
	Cond.	492	500
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900041

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/19/90 at: 1220

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900041

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.4	7.7
	O2 ppm	8.4	7.0
	Cond.	4560	4500
	Temp(C)	20.0	20.0
50	pH	7.7	7.9
	O2 ppm	8.8	7.9
	Cond.	2600	2520
	Temp(C)	20.0	20.0
26	pH	8.0	8.2
	O2 ppm	8.9	8.2
	Cond.	1620	1540
	Temp(C)	20.0	20.0
13	pH	8.2	8.3
	O2 ppm	9.0	8.8
	Cond.	1080	1020
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.0	9.0
	Cond.	780	740
	Temp(C)	20.0	20.0
Control	pH	8.4	8.4
	O2 ppm	9.4	9.2
	Cond.	490	484
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900061

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/19/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:20	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900061

TEST CONC. %		ELAPSED TIME 00:00	48:20
100	pH	8.2	8.2
	O2 ppm	8.4	8.0
	Cond.	4620	4580
	Temp(C)	20.0	20.0
50	pH	8.3	8.2
	O2 ppm	8.8	8.4
	Cond.	2620	2580
	Temp(C)	20.0	20.0
26	pH	8.4	8.2
	O2 ppm	8.9	8.6
	Cond.	1600	1580
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	9.0	8.8
	Cond.	1080	1060
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	9.0	8.9
	Cond.	780	760
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.2	9.0
	Cond.	510	500
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890086

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/16/89 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:35	TOTAL MORTALITY %
100	0	0	0
50	0	1	8
26	0	0	0
13	0	0	0
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890086

TEST CONC. %		ELAPSED TIME 00:00	49:35
100	pH	6.6	7.5
	O2 ppm	6.8	9.4
	Cond.	1800	1900
	Temp(C)	20.0	20.0
50	pH	7.1	7.8
	O2 ppm	7.0	9.3
	Cond.	1090	1230
	Temp(C)	20.0	20.0
26	pH	7.5	7.9
	O2 ppm	8.3	9.2
	Cond.	890	900
	Temp(C)	20.0	20.0
13	pH	7.7	8.0
	O2 ppm	8.4	9.3
	Cond.	690	700
	Temp(C)	20.0	20.0
6	pH	7.8	8.1
	O2 ppm	8.6	9.4
	Cond.	590	590
	Temp(C)	20.0	20.0
Control	pH	7.8	7.8
	O2 ppm	8.8	9.3
	Cond.	490	485
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890112

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/20/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890112

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.2	7.2
	O2 ppm	8.0	8.0
	Cond.	2400	2340
	Temp(C)	20.0	20.0
50	pH	7.5	7.9
	O2 ppm	9.0	8.6
	Cond.	1440	1460
	Temp(C)	20.0	20.0
26	pH	7.7	8.1
	O2 ppm	9.3	8.8
	Cond.	980	1000
	Temp(C)	20.0	20.0
13	pH	7.9	8.1
	O2 ppm	9.5	8.8
	Cond.	720	740
	Temp(C)	20.0	20.0
6	pH	8.0	8.1
	O2 ppm	9.5	9.2
	Cond.	600	600
	Temp(C)	20.0	20.0
Control	pH	8.1	8.1
	O2 ppm	9.6	9.2
	Cond.	490	490
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890133

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890133

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.1	7.7
	O2 ppm	8.4	8.8
	Cond.	2400	2480
	Temp(C)	20.0	20.0
50	pH	7.6	8.1
	O2 ppm	8.9	9.0
	Cond.	1460	1480
	Temp(C)	20.0	20.0
26	pH	9.9	8.2
	O2 ppm	9.1	9.0
	Cond.	1000	1020
	Temp(C)	20.0	20.0
13	pH	8.1	8.3
	O2 ppm	9.1	9.0
	Cond.	760	780
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.2	9.0
	Cond.	600	620
	Temp(C)	20.0	20.0
Control	pH	8.4	8.4
	O2 ppm	9.4	9.4
	Cond.	480	510
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900013

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1405

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:35	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Duplicate Tested

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900013

TEST CONC. %		ELAPSED TIME 00:00	48:35
100	pH	7.3	8.0
	O2 ppm	7.6	8.5
	Cond.	2020	1995
	Temp(C)	20.0	20.0
50	pH	7.6	8.6
	O2 ppm	8.2	8.1
	Cond.	1260	1220
	Temp(C)	20.0	20.0
26	pH	7.8	8.1
	O2 ppm	8.4	8.8
	Cond.	900	895
	Temp(C)	20.0	20.0
13	pH	8.0	8.1
	O2 ppm	8.6	9.0
	Cond.	720	470
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	8.8	9.2
	Cond.	600	600
	Temp(C)	20.0	20.0
Control	pH	8.2	8.2
	O2 ppm	9.0	9.1
	Cond.	500	495
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900039

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/19/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	48:00	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900039

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.3	7.7
	O2 ppm	8.4	8.8
	Cond.	2460	2300
	Temp(C)	20.0	20.0
50	pH	7.7	8.0
	O2 ppm	8.8	9.1
	Cond.	1500	1400
	Temp(C)	20.0	20.0
26	pH	8.0	8.2
	O2 ppm	9.0	9.2
	Cond.	1020	990
	Temp(C)	20.0	20.0
13	pH	8.2	8.3
	O2 ppm	9.0	9.1
	Cond.	780	710
	Temp(C)	20.0	20.0
6	pH	8.3	8.3
	O2 ppm	9.0	9.2
	Cond.	620	600
	Temp(C)	20.0	20.0
Control	pH	8.4	8.4
	O2 ppm	9.4	9.2
	Cond.	490	488
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900058

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (1800)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/19/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	49:10	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900058

TEST CONC. %		ELAPSED TIME 00:00	49:10
100	pH	7.2	7.5
	O2 ppm	8.0	8.8
	Cond.	2000	1920
	Temp(C)	20.0	20.0
50	pH	7.6	7.9
	O2 ppm	8.6	8.9
	Cond.	1240	1200
	Temp(C)	20.0	20.0
26	pH	7.9	8.1
	O2 ppm	8.8	9.0
	Cond.	900	860
	Temp(C)	20.0	20.0
13	pH	8.2	8.2
	O2 ppm	9.0	9.1
	Cond.	700	700
	Temp(C)	20.0	20.0
6	pH	8.3	8.2
	O2 ppm	9.2	9.1
	Cond.	600	600
	Temp(C)	20.0	20.0
Control	pH	8.4	8.3
	O2 ppm	9.2	9.2
	Cond.	510	500
	Temp(C)	20.0	20.0

COMPANY: Rohm & Haas Canada Inc., Scarborough (580001)
SECTOR: Organic Chemical
REGION: Central

SUMMARY
The initiation of acute toxicity monitoring by Rohm & Haas Canada Incorporated was delayed therefore no data has been submitted for the period between October 1989 and March 1990.

COMPANY: Rohm & Haas Canada Inc., Scarborough (580001)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The toxicity monitoring for Rohm and Haas Canada Inc. of Scarborough has been delayed, therefore no data has been submitted for the period October 1989 to March 1990.

COMPANY: Rohm and Haas Canada Inc., Morrisburg (580100)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY
The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Rohm and Haas Canada Incorporated. All six combined effluent samples were determined to have been non-acutely lethal to test fish.

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combined effluent

03890233 sampled: 10/25/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03890295 sampled: 11/21/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890391 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900079 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900160 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900227 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

process effluent

storm water

rain gauge

intake water

MISA Trout

TOXICITY TEST REPORT Sample: 03890233

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 10/25/89
Received : 10/26/89
Tested : 10/26/89 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890233

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.7					7.9
	O2 ppm	8.1					7.8
	Cond.	573					564
	Temp(C)	15.0	15.0	15.0	15.0	15.5	16.0
10	pH	7.8					8.3
	O2 ppm	8.3					8.8
	Cond.	556					545
	Temp(C)	15.0	15.0	15.0	15.0	15.5	16.0
20	pH	7.8					8.0
	O2 ppm	8.3					8.1
	Cond.	537					527
	Temp(C)	15.0	15.0	15.0	15.0	15.5	16.0
40	pH	7.8					8.1
	O2 ppm	8.6					8.5
	Cond.	500					489
	Temp(C)	15.0	15.0	15.0	15.0	15.5	16.0
65	pH	7.8					7.8
	O2 ppm	8.6					7.8
	Cond.	452					445
	Temp(C)	15.0	15.0	15.0	15.0	15.5	16.0
100	pH	7.8					7.8
	O2 ppm	8.9					8.4
	Cond.	386					373
	Temp(C)	15.0	15.0	15.0	15.0	15.5	16.0

TOXICITY TEST REPORT Sample: 03890295

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890295

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.5
	O2 ppm	8.9					9.7
	Cond.	563					555
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
10	pH	7.9					8.5
	O2 ppm	8.9					9.7
	Cond.	563					559
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
20	pH	7.9					8.4
	O2 ppm	8.9					9.6
	Cond.	556					549
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
40	pH	7.9					8.4
	O2 ppm	8.9					9.6
	Cond.	542					539
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
65	pH	7.8					7.7
	O2 ppm	9.0					7.8
	Cond.	504					510
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
100	pH	7.7					8.0
	O2 ppm	9.1					9.2
	Cond.	474					475
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890391

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890391

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	9.3				8.8
	Cond.	357				360
	Temp(C)	15.0	14.0	14.0	14.0	14.5
65	pH	7.9				8.3
	O2 ppm	9.2				8.8
	Cond.	427				429
	Temp(C)	15.0	14.0	14.0	14.0	14.5
40	pH	7.9				8.0
	O2 ppm	9.1				7.5
	Cond.	479				480
	Temp(C)	15.0	14.0	14.0	14.0	14.5
20	pH	7.9				8.5
	O2 ppm	9.0				8.6
	Cond.	517				515
	Temp(C)	15.0	14.0	14.0	14.0	14.5
10	pH	7.9				8.5
	O2 ppm	8.9				8.7
	Cond.	536				529
	Temp(C)	15.0	14.0	14.0	14.0	14.5
5	pH	7.9				8.5
	O2 ppm	8.9				9.0
	Cond.	546				523
	Temp(C)	15.0	14.0	14.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.9				9.0
	Cond.	550				533
	Temp(C)	15.0	14.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900079

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 01/23/90
Received : 01/25/90
Tested : 01/27/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900079

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.0
	O2 ppm	9.0				10.1
	Cond.	403				413
	Temp(C)	15.0	14.5	14.0	15.0	14.5
Control	pH	7.8				8.4
	O2 ppm	8.1				9.7
	Cond.	548				548
	Temp(C)	15.0	14.5	14.0	15.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900160

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900160

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.6				8.0
	O2 ppm	8.4				9.5
	Cond.	399				397
	Temp(C)	15.0	14.5	14.0	14.0	14.5
100	pH	7.6				8.1
	O2 ppm	8.4				9.6
	Cond.	399				397
	Temp(C)	15.0	14.5	14.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.1				9.5
	Cond.	544				548
	Temp(C)	15.0	14.5	14.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.1				9.8
	Cond.	544				525
	Temp(C)	15.0	14.5	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900227

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1435

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900227

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.3
	O2 ppm	8.2				9.8
	Cond.	447				452
	Temp(C)	15.0	14.0	14.5	14.5	15.0
100	pH	8.1				8.3
	O2 ppm	8.2				9.8
	Cond.	447				452
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.5
	O2 ppm	7.9				9.6
	Cond.	549				528
	Temp(C)	15.0	14.0	14.5	14.5	15.0
Control	pH	7.9				8.5
	O2 ppm	7.9				9.6
	Cond.	549				528
	Temp(C)	15.0	14.0	14.5	14.5	15.0

COMPANY: Rohm and Haas Canada Inc., Morrisburg (580100)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Data for six Daphnia magna acute lethality toxicity tests conducted on samples of Combined effluent collected between October 1989 and March 1990 were submitted by Rohm and Haas Canada Inc. of Morrisburg.

Four samples were not acutely lethal to Daphnia, and two samples had 48 h LC50s > 100%. One toxic sample induced an unusual toxic response in which the greatest number of mortalities occurred in the middle concentrations of effluent.

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combined effluent

03890233 sampled: 10/25/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03890295 sampled: 11/21/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03890391 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900079 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900160 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900227 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

process effluent

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890233

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 10/25/89
Received : 10/26/89
Tested : 10/26/89 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	1	2	16
13	0	0	1	2	16
25	0	0	1	2	16
50	0	0	0	0	0
100	0	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890233

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	7.5			7.9
	O2 ppm	7.8			8.9
	Cond.	303			301
	Temp(C)	20.0	20.5	20.0	20.0
6	pH	7.5			7.9
	O2 ppm	8.0			8.6
	Cond.	305			308
	Temp(C)	20.0	20.5	20.0	20.0
13	pH	7.6			7.9
	O2 ppm	8.1			8.4
	Cond.	312			316
	Temp(C)	20.0	20.5	20.0	20.0
25	pH	7.6			7.7
	O2 ppm	8.1			7.8
	Cond.	323			324
	Temp(C)	20.0	20.5	20.0	20.0
50	pH	7.6			7.4
	O2 ppm	8.2			6.4
	Cond.	343			344
	Temp(C)	20.0	20.5	20.0	20.0
100	pH	7.7			7.1
	O2 ppm	8.5			5.2
	Cond.	387			382
	Temp(C)	20.0	20.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890295

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/24/89 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	1	1	8
50	0	0	0	0	0
25	0	0	0	0	0
13	0	0	0	0	0
6	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890295

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	7.3			7.0
	O2 ppm	6.1			4.3
	Cond.	467			449
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	7.6			7.4
	O2 ppm	7.5			4.6
	Cond.	389			381
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.0			7.5
	O2 ppm	8.1			5.9
	Cond.	350			346
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.1			7.7
	O2 ppm	8.4			7.4
	Cond.	339			330
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.3			8.1
	O2 ppm	8.6			8.6
	Cond.	319			320
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.5			8.4
	O2 ppm	9.0			9.9
	Cond.	301			316
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890391

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/21/89 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890391

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.2		7.7
	O2 ppm	9.4		7.0
	Cond.	350		356
	Temp(C)	20.0	20.0	20.0
50	pH	8.2		8.0
	O2 ppm	9.3		8.0
	Cond.	327		331
	Temp(C)	20.0	20.0	20.0
25	pH	8.3		8.2
	O2 ppm	9.1		8.3
	Cond.	313		318
	Temp(C)	20.0	20.0	20.0
13	pH	8.3		8.2
	O2 ppm	9.1		8.5
	Cond.	308		312
	Temp(C)	20.0	20.0	20.0
6	pH	8.4		8.3
	O2 ppm	9.1		8.6
	Cond.	306		311
	Temp(C)	20.0	20.0	20.0
Control	pH	8.4		8.3
	O2 ppm	9.6		8.0
	Cond.	308		302
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900079

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 01/23/90
Received : 01/25/90
Tested : 01/26/90 at: 1225

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900079

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.5		7.8
	O2 ppm	7.3		6.6
	Cond.	397		402
	Temp(C)	20.0	20.0	20.5
50	pH	8.0		8.1
	O2 ppm	8.2		7.4
	Cond.	341		349
	Temp(C)	20.0	20.0	20.5
25	pH	8.3		8.3
	O2 ppm	8.5		7.9
	Cond.	318		324
	Temp(C)	20.0	20.0	20.5
13	pH	8.3		8.4
	O2 ppm	8.7		8.1
	Cond.	310		311
	Temp(C)	20.0	20.0	20.5
6	pH	8.4		8.5
	O2 ppm	8.6		8.1
	Cond.	296		303
	Temp(C)	20.0	20.0	20.5
Control	pH	8.5		8.5
	O2 ppm	8.8		8.2
	Cond.	292		294
	Temp(C)	20.0	20.0	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900160

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 935

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900160

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.6		7.2
	O2 ppm	7.7		5.1
	Cond.	383		381
	Temp(C)	20.0	20.5	20.5
50	pH	8.0		7.6
	O2 ppm	7.8		7.0
	Cond.	344		345
	Temp(C)	20.0	20.5	20.5
25	pH	8.3		8.0
	O2 ppm	7.8		8.0
	Cond.	326		328
	Temp(C)	20.0	20.5	20.5
13	pH	8.4		8.2
	O2 ppm	7.8		8.4
	Cond.	314		318
	Temp(C)	20.0	20.5	20.5
6	pH	8.4		8.4
	O2 ppm	7.8		8.5
	Cond.	303		312
	Temp(C)	20.0	20.5	20.5
Control	pH	8.5		8.4
	O2 ppm	8.1		8.7
	Cond.	303		305
	Temp(C)	20.0	20.5	20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900227

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/23/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900227

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.0
	O2 ppm	9.2		8.5
	Cond.	447		445
	Temp(C)	20.0	20.0	19.5
50	pH	8.2		8.1
	O2 ppm	8.9		8.7
	Cond.	366		371
	Temp(C)	20.0	20.0	19.5
25	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	334		335
	Temp(C)	20.0	20.0	19.5
13	pH	8.2		8.4
	O2 ppm	8.8		8.4
	Cond.	316		317
	Temp(C)	20.0	20.0	19.5
6	pH	8.2		8.4
	O2 ppm	8.8		8.4
	Cond.	306		305
	Temp(C)	20.0	20.0	19.5
Control	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	300		294
	Temp(C)	20.0	20.0	19.5

COMPANY: Stepan Canada Inc., Longford Mills (140004)
SECTOR: Organic Chemical
REGION: Central

SUMMARY
The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Stepan Canada Incorporated. All six combined effluent samples were determined to have been non-acutely lethal to test fish.

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combined effluent

08890441 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890473 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890492 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900031 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900111 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900221 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

emergency overflow

rain gauge

intake water

TOXICITY TEST REPORT Sample: 08890441

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 HR. COMPOSITE
Sampled By : B. FREE
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/20/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890441

TEST CONC. %		ELAPSED TIME 00:00	96:00
100	pH	7.4	7.3
	O2 ppm	7.6	9.4
	Cond.	357	530
	Temp(C)	15.0	15.0
65	pH	7.5	7.4
	O2 ppm	8.1	9.4
	Cond.	313	452
	Temp(C)	15.0	15.0
40	pH	7.5	7.4
	O2 ppm	7.5	9.4
	Cond.	282	396
	Temp(C)	15.0	15.0
30	pH	7.6	7.3
	O2 ppm	8.2	9.5
	Cond.	270	374
	Temp(C)	15.0	15.0
20	pH	7.5	7.5
	O2 ppm	8.1	9.6
	Cond.	257	351
	Temp(C)	15.0	15.0
10	pH	7.8	7.6
	O2 ppm	8.2	9.6
	Cond.	245	329
	Temp(C)	15.0	15.0
Control	pH	7.6	7.7
	O2 ppm	7.2	10.0
	Cond.	340	509
	Temp(C)	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 08890473

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : INTEGRATED
Sampling Method : 24 HR COMPOSITE
Sampled By : W. JOHNSTON
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/17/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:05	04:00	24:00	49:15	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890473

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:05	04:00	24:00	49:15	72:00	96:00
100	pH	7.1							7.8
	O2 ppm	9.6							9.1
	Cond.	2240							2250
	Temp(C)	8.0				15.0			15.0
65	pH	7.2							8.1
	O2 ppm	8.8							8.7
	Cond.	1350							1470
	Temp(C)	10.0				15.0			15.0
40	pH	7.1							8.2
	O2 ppm	8.2							9.1
	Cond.	990							1160
	Temp(C)	11.0				15.0			15.0
30	pH	7.1							8.3
	O2 ppm	7.8							8.4
	Cond.	930							960
	Temp(C)	11.0				15.0			15.0
10	pH	6.9							8.4
	O2 ppm	7.6							7.5
	Cond.	860							870
	Temp(C)	11.0				15.0			15.0
Control	pH	7.2							8.4
	O2 ppm	7.3							8.2
	Cond.	550							720
	Temp(C)	12.0				15.0			15.0

MISA Trout

TOXICITY TEST REPORT Sample: 08890492

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W. JOHNSTON
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:02	04:00	23:55	48:30	71:50	96:10	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890492

TEST CONC. %		ELAPSED TIME 00:00	96:10
100	pH	7.8	8.0
	O2 ppm	7.3	7.4
	Cond.	600	650
	Temp(C)	14.0	15.0
65	pH	7.8	8.2
	O2 ppm	7.2	7.3
	Cond.	600	650
	Temp(C)	14.0	15.0
40	pH	7.8	8.3
	O2 ppm	7.1	7.4
	Cond.	650	700
	Temp(C)	14.0	15.0
30	pH	7.6	8.3
	O2 ppm	7.1	7.6
	Cond.	680	700
	Temp(C)	14.0	15.0
10	pH	7.6	8.5
	O2 ppm	7.2	7.6
	Cond.	660	720
	Temp(C)	14.0	15.0
Control	pH	7.7	8.7
	O2 ppm	7.2	7.6
	Cond.	680	700
	Temp(C)	14.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 08900031

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W Johnston
Date Collected : 01/17/90
Received : 01/18/90
Tested : 01/18/90 at: 1145

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:10	02:35	04:25	25:55	48:55	72:55	97:55	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900031

TEST CONC. %		ELAPSED TIME 00:00	01:10	02:35	04:25	25:55	48:55	72:55	97:55
100	pH	8.1							8.2
	O2 ppm	7.0							7.6
	Cond.	610							620
	Temp(C)	14.0							13.5
65	pH	8.0							8.4
	O2 ppm	7.3							7.6
	Cond.	655							650
	Temp(C)	14.0							13.5
40	pH	8.0							8.5
	O2 ppm	7.4							7.6
	Cond.	700							690
	Temp(C)	14.0							13.5
30	pH	8.0							8.5
	O2 ppm	7.6							7.6
	Cond.	715							700
	Temp(C)	14.0							13.5
10	pH	8.0							8.6
	O2 ppm	7.6							7.6
	Cond.	760							720
	Temp(C)	14.0							13.5
5	pH	8.0							8.6
	O2 ppm	7.6							7.6
	Cond.	760							720
	Temp(C)	14.0							13.5
Control	pH	7.9							8.6
	O2 ppm	7.7							7.7
	Cond.	760							745
	Temp(C)	14.0							13.5

MISA Trout

TOXICITY TEST REPORT Sample: 08900111

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : 24 hr composite
Sampled By : W Johnston
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	03:55	24:00	46:47	70:45	94:50	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900111

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	03:55	24:00	46:47	70:45	94:50
100	pH	7.8							8.0
	O2 ppm	8.3							8.0
	Cond.	425							495
	Temp(C)	15.0							16.0
65	pH	7.7							8.3
	O2 ppm	8.1							8.1
	Cond.	500							560
	Temp(C)	15.0							16.0
40	pH	7.7							8.3
	O2 ppm	7.7							8.1
	Cond.	600							650
	Temp(C)	15.0							16.0
30	pH	7.7							8.4
	O2 ppm	7.6							8.1
	Cond.	650							700
	Temp(C)	15.0							16.0
10	pH	7.7							8.3
	O2 ppm	7.5							8.0
	Cond.	700							750
	Temp(C)	15.0							16.0
5	pH	7.6							8.4
	O2 ppm	7.4							8.1
	Cond.	750							745
	Temp(C)	15.0							16.0
Control	pH	7.5							8.2
	O2 ppm	7.8							8.2
	Cond.	750							790
	Temp(C)	15.0							16.0

MISA Trout

TOXICITY TEST REPORT Sample: 08900221

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : J. R. Teeple
Date Collected : 03/21/90
Received : 03/22/90
Tested : 03/23/90 at: 930

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:15	05:10	29:10	53:10	74:10	98:25	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900221

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:15	05:10	29:10	53:10	74:10	98:25
100	pH	8.4							8.4
	O2 ppm	8.7							8.7
	Cond.	500							480
	Temp(C)	14.0							15.0
65	pH	8.1							8.4
	O2 ppm	8.6							8.7
	Cond.	650							640
	Temp(C)	14.0							15.0
40	pH	8.0							8.4
	O2 ppm	8.6							8.7
	Cond.	750							750
	Temp(C)	14.0							15.0
30	pH	7.9							8.4
	O2 ppm	8.7							8.7
	Cond.	800							790
	Temp(C)	14.0							15.0
10	pH	7.9							8.4
	O2 ppm	8.7							8.8
	Cond.	850							805
	Temp(C)	14.0							15.0
5	pH	7.9							8.5
	O2 ppm	9.0							8.9
	Cond.	850							805
	Temp(C)	14.0							15.0
Control	pH	7.7							8.3
	O2 ppm	8.6							9.2
	Cond.	850							690
	Temp(C)	14.0							15.0

COMPANY: Stepan Canada Inc., Longford Mills (140004)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

Data for six Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by Stepan Canada Inc. of Longford Mills.

Four of the six samples were not acutely lethal to Daphnia. The remaining two samples induced an unusual toxic response in which the greatest number of mortalities occured in the middle concentrations of effluent.

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combined effluent

08890443 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08890471 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890491 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900032 sampled: 01/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900112 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900222 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

emergency overflow

rain gauge

intake water

MISA Daphnia

TOXICITY TEST REPORT Sample: 08890443

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 HR. COMPOSITE
Sampled By : B. FREE
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/20/89 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	1	1	8
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	1	1	8
5	0	0	0	0	1	2	16
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890443

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	6.9	8.0
	O2 ppm	8.3	5.7
	Cond.	350	310
	Temp(C)	20.0	20.0
50	pH	7.0	7.9
	O2 ppm	8.5	5.5
	Cond.	314	307
	Temp(C)	20.0	20.0
25	pH	7.0	7.9
	O2 ppm	8.0	5.5
	Cond.	296	318
	Temp(C)	20.0	20.0
15	pH	7.0	7.8
	O2 ppm	8.8	4.8
	Cond.	288	319
	Temp(C)	20.0	20.0
5	pH	7.0	7.8
	O2 ppm	8.6	4.7
	Cond.	281	328
	Temp(C)	20.0	20.0
Control	pH	7.0	8.1
	O2 ppm	8.1	5.1
	Cond.	340	333
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08890471

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 HR. COMPOSITE
Sampled By : W. JOHNSTON
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/17/89 at: 1445

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890471

TEST CONC. %		ELAPSED TIME 00:00	48:00
100	pH	7.5	8.0
	O2 ppm	9.7	9.2
	Cond.	1900	1990
	Temp(C)	19.0	19.0
50	pH	7.6	8.2
	O2 ppm	9.7	9.5
	Cond.	1061	1172
	Temp(C)	19.0	19.0
25	pH	7.6	8.2
	O2 ppm	9.7	9.7
	Cond.	590	820
	Temp(C)	19.0	19.0
15	pH	7.6	8.3
	O2 ppm	9.7	9.7
	Cond.	484	589
	Temp(C)	19.0	19.0
5	pH	7.6	8.3
	O2 ppm	9.8	9.8
	Cond.	319	422
	Temp(C)	19.0	19.0
Control	pH	7.6	8.4
	O2 ppm	9.7	9.8
	Cond.	280	290
	Temp(C)	19.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08890491

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W. JOHNSTON
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	47:45	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	2	2	2	16
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08890491

TEST CONC. %		ELAPSED TIME 00:00	47:45
100	pH	7.8	7.6
	O2 ppm	7.6	6.8
	Cond.	450	525
	Temp(C)	20.0	20.0
50	pH	7.9	7.7
	O2 ppm	7.6	6.8
	Cond.	340	450
	Temp(C)	20.0	20.0
25	pH	7.8	7.7
	O2 ppm	7.6	7.0
	Cond.	320	360
	Temp(C)	20.0	20.0
15	pH	7.8	8.0
	O2 ppm	7.4	7.5
	Cond.	320	360
	Temp(C)	20.0	20.0
5	pH	7.8	8.2
	O2 ppm	7.6	6.8
	Cond.	290	400
	Temp(C)	20.0	20.0
Control	pH	7.7	7.7
	O2 ppm	7.2	7.0
	Cond.	290	425
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08900032

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : 24hr composite
Sampled By : W. Johnston
Date Collected : 01/17/90
Received : 01/18/90
Tested : 01/18/90 at: 1315

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:15	03:25	04:15	24:25	48:15	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	1	1	8
Control	0	0	0	0	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900032

TEST CONC. %		ELAPSED TIME 00:00	01:15	03:25	04:15	24:25	48:15
100	pH	8.3					8.2
	O2 ppm	6.4					5.2
	Cond.	590					560
	Temp(C)	20.0					20.0
50	pH	8.4					8.3
	O2 ppm	6.4					5.2
	Cond.	540					520
	Temp(C)	20.0					20.0
25	pH	8.5					8.4
	O2 ppm	7.4					6.1
	Cond.	540					510
	Temp(C)	20.0					20.0
15	pH	8.5					8.5
	O2 ppm	7.3					6.0
	Cond.	540					510
	Temp(C)	20.0					20.0
5	pH	8.5					8.5
	O2 ppm	7.4					6.0
	Cond.	540					510
	Temp(C)	20.0					20.0
Control	pH	8.5					8.6
	O2 ppm	7.4					6.0
	Cond.	540					510
	Temp(C)	20.0					20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08900112

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W Johnston
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:10	04:10	24:40	47:40	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900112

TEST CONC. %		ELAPSED TIME 00:00	47:40
100	pH	7.9	7.8
	O2 ppm	7.7	6.6
	Cond.	450	460
	Temp(C)	21.0	20.0
50	pH	8.1	7.9
	O2 ppm	7.2	6.8
	Cond.	390	430
	Temp(C)	21.0	20.0
25	pH	8.1	7.9
	O2 ppm	7.2	6.9
	Cond.	390	390
	Temp(C)	21.0	20.0
15	pH	8.2	7.9
	O2 ppm	7.0	6.9
	Cond.	380	390
	Temp(C)	21.0	20.0
5	pH	8.2	7.9
	O2 ppm	7.1	6.7
	Cond.	360	380
	Temp(C)	21.0	20.0
Control	pH	8.2	7.8
	O2 ppm	6.9	7.8
	Cond.	325	365
	Temp(C)	21.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 08900222

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : R. Teeple
Date Collected : 03/21/90
Received : 03/22/90
Tested : 03/23/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	27:05	50:55	TOTAL MORTALITY %
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900222

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	27:05	50:55
100	pH	8.4					8.3
	O2 ppm	8.6					7.4
	Cond.	475					550
	Temp(C)	20.0					20.0
50	pH	8.3					8.3
	O2 ppm	8.6					7.3
	Cond.	525					575
	Temp(C)	20.0					20.0
25	pH	8.3					8.3
	O2 ppm	8.6					7.4
	Cond.	550					600
	Temp(C)	20.0					20.0
15	pH	8.3					8.3
	O2 ppm	8.7					7.3
	Cond.	600					640
	Temp(C)	20.0					20.0
5	pH	8.4					8.3
	O2 ppm	8.6					7.2
	Cond.	600					640
	Temp(C)	20.0					20.0
Control	pH	8.5					8.3
	O2 ppm	8.7					7.4
	Cond.	700					625
	Temp(C)	20.0					20.0

COMPANY: Uniroyal Chemical Ltd., Elmira (680108)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY
The data for twenty-two trout bioassays, conducted on combined effluent and once through cooling water samples collected between October 1989 and March 1990, were provided by Uniroyal Chemical Limited. Three of six samples collected from combined effluent 0600 had 96 hour LC50s of > 100 %. The other three samples were determined to have been non-acutely lethal. One of six samples collected from combined effluent 0800 had a 96 hour LC50 of > 100 %. The other five samples were non-acutely lethal. Two of six samples collected from the combined effluent 0900 had 96 hour LC50s of > 100 %. The other four samples were non-acutely lethal.
One of the four cooling water samples had a 96 hour LC50 of > 100 %, while the remaining were non-acutely lethal. All Ministry audit testing of samples collected from the four locations were determined to have been non-acutely lethal to test fish.

OT cooling water

OT cooling water

01890284 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890374 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900035 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900129 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900218 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

OT cooling water

combined effluent

rain gauge

combined effluent

03890217 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890286 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

01890281 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890375 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900036 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900130 sampled: 02/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Lethal

03900217 sampled: 03/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

combined effluent

combined effluent

03890218 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890287 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

01890282 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890376 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900037 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900127 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

03900219 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

combined effluent

03890219 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890288 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

01890283 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890377 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900038 sampled: 01/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900128 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900220 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

intake water

TOXICITY TEST REPORT Sample: 01890284

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	28:00	49:00	72:20	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890284

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	28:00	49:00	72:20	96:0
100	pH	7.5		7.8	8.0	8.0	8.1	8.		
	O2 ppm	8.2		9.8	10.5	9.8	9.7	10.		
	Cond.	980		940	940	960	940	92		
	Temp(C)	14.0		14.0	14.0	14.0	14.0	14.		
65	pH			7.9	8.1	8.0	8.1	8.		
	O2 ppm			9.8	10.9	9.9	9.7	10.		
	Cond.			660	680	720	700	72		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
40	pH			7.7	7.8	7.7	7.9	7.		
	O2 ppm			9.7	10.4	9.5	9.6	10.		
	Cond.			540	520	560	560	56		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
30	pH			7.7	7.7	7.6	7.8	7.		
	O2 ppm			9.5	10.1	9.1	9.5	10.		
	Cond.			465	460	485	480	48		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
20	pH			7.9	7.7	7.6	7.8	7.		
	O2 ppm			10.0	10.7	9.3	9.4	10.		
	Cond.			390	390	410	420	41		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
10	pH			7.6	7.9	7.6	7.8	7.		
	O2 ppm			9.3	10.5	9.5	9.5	10.		
	Cond.			310	320	335	325	33		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
Control	pH			7.7	7.8	7.6	7.8	7.		
	O2 ppm			9.8	10.7	9.5	9.2	10.		
	Cond.			250	255	260	260	26		
	Temp(C)			14.0	14.0	14.0	14.0	14.		

MISA Trout

TOXICITY TEST REPORT Sample: 03890374

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	2	3	4	40
65	0	0	0	0	1	10
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890374

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.3
	O2 ppm	8.5				9.1
	Cond.	1024				1017
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.8				8.2
	O2 ppm	8.1				8.8
	Cond.	874				880
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.8				8.3
	O2 ppm	8.1				9.5
	Cond.	744				746
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.8				8.3
	O2 ppm	8.0				9.6
	Cond.	649				654
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.5
	O2 ppm	8.0				9.5
	Cond.	602				582
	Temp(C)		14.0	14.0	14.0	14.0
5	pH	7.8				8.5
	O2 ppm	8.0				9.8
	Cond.	577				581
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.1				9.9
	Cond.	555				556
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900035

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900035

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				7.9
	O2 ppm	9.6				8.9
	Cond.	2700				2260
	Temp(C)	15.0	15.0	14.0	14.0	14.5
65	pH	7.8				8.2
	O2 ppm	9.6				8.9
	Cond.	5320				1530
	Temp(C)	15.0	15.0	14.0	14.0	14.5
40	pH	7.9				8.2
	O2 ppm	9.5				9.2
	Cond.	1006				1000
	Temp(C)	15.0	15.0	14.0	14.0	14.5
20	pH	7.9				8.2
	O2 ppm	9.2				8.9
	Cond.	5490				5490
	Temp(C)	15.0	15.0	14.0	14.0	14.5
10	pH	7.9				8.2
	O2 ppm	9.0				8.5
	Cond.	3220				3230
	Temp(C)	15.0	15.0	14.0	14.0	14.5
5	pH	8.0				8.2
	O2 ppm	9.0				8.6
	Cond.	1787				1788
	Temp(C)	15.0	15.0	14.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	9.0				8.7
	Cond.	557				562
	Temp(C)	15.0	15.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900129

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900129

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.4
	O2 ppm	10.2				10.2
	Cond.	1211				1180
	Temp(C)	15.0	14.0	14.5	14.0	14.0
65	pH	8.0				8.2
	O2 ppm	9.8				10.0
	Cond.	982				946
	Temp(C)	15.0	14.0	14.5	14.0	14.0
40	pH	8.0				8.4
	O2 ppm	9.6				10.2
	Cond.	816				763
	Temp(C)	15.0	14.0	14.5	14.0	14.0
20	pH	7.9				8.4
	O2 ppm	9.4				10.2
	Cond.	683				655
	Temp(C)	15.0	14.0	14.5	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	9.2				10.2
	Cond.	606				579
	Temp(C)	15.0	14.0	14.5	14.0	14.0
5	pH	7.9				8.4
	O2 ppm	9.1				10.0
	Cond.	579				568
	Temp(C)	15.0	14.0	14.5	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	8.9				10.2
	Cond.	546				520
	Temp(C)	15.0	14.0	14.5	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1135

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900218

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				7.9
	O2 ppm	9.8				9.9
	Cond.	1045				1021
	Temp(C)	15.0	14.5	14.5	14.5	14.5
65	pH	7.9				8.4
	O2 ppm	9.3				9.9
	Cond.	886				855
	Temp(C)	15.0	14.5	14.5	14.5	14.5
40	pH	7.9				8.4
	O2 ppm	9.2				9.7
	Cond.	761				737
	Temp(C)	15.0	14.5	14.5	14.5	14.5
20	pH	7.9				8.4
	O2 ppm	8.8				9.7
	Cond.	656				652
	Temp(C)	15.0	14.5	14.5	14.5	14.5
10	pH	7.9				8.4
	O2 ppm	8.7				9.6
	Cond.	602				599
	Temp(C)	15.0	14.5	14.5	14.5	14.5
5	pH	7.9				8.4
	O2 ppm	8.6				9.6
	Cond.	576				567
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.4
	O2 ppm	8.5				9.4
	Cond.	549				547
	Temp(C)	15.0	14.5	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03890217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890217

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	8.7					9.3
	Cond.	571					554
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
10	pH	7.8					8.5
	O2 ppm	8.9					9.4
	Cond.	616					602
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
20	pH	7.8					8.4
	O2 ppm	8.9					9.2
	Cond.	659					648
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
40	pH	7.8					8.4
	O2 ppm	9.1					9.2
	Cond.	743					729
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
65	pH	7.8					8.5
	O2 ppm	9.4					9.3
	Cond.	846					829
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
100	pH	7.9					8.5
	O2 ppm	9.9					9.6
	Cond.	984					967
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890286

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	1	10
10	0	0	0	0	0	1	10
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890286

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.5
	O2 ppm	9.4					9.5
	Cond.	560					569
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5
10	pH	7.8					8.7
	O2 ppm	9.1					9.6
	Cond.	612					607
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5
20	pH	7.9					8.6
	O2 ppm	9.2					9.6
	Cond.	664					657
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5
40	pH	8.0					8.7
	O2 ppm	9.3					9.6
	Cond.	753					755
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5
65	pH	7.9					8.6
	O2 ppm	9.6					9.6
	Cond.	880					879
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5
100	pH	8.0					8.5
	O2 ppm	9.7					9.2
	Cond.	1050					1048
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01890281

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	27:20	48:30	69:20	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890281

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	27:20	48:30	69:20	96:0
100	pH	7.5		8.0		8.2	8.0	8.1	8.
	O2 ppm	9.2		9.9		10.8	10.1	9.6	10.
	Cond.	720		720		700	720	700	72
	Temp(C)	14.0		14.0		14.0	14.0	14.0	14.
65	pH			7.7		7.9	7.8	7.9	7.
	O2 ppm			9.4		10.6	9.9	8.9	10.
	Cond.			580		540	580	580	58
	Temp(C)			14.0		14.0	14.0	14.0	14.
40	pH			7.9		7.9	7.8	7.5	7.
	O2 ppm			9.9		10.9	10.0	9.5	10.
	Cond.			455		450	455	460	46
	Temp(C)			14.0		14.0	14.0	14.0	14.
30	pH			7.9		7.8	7.7	7.9	7.
	O2 ppm			9.9		10.9	9.9	9.5	10.
	Cond.			400		405	405	410	40
	Temp(C)			14.0		14.0	14.0	14.0	14.
20	pH			7.9		7.5	7.3	7.4	7.
	O2 ppm			9.9		9.7	8.8	8.6	9.
	Cond.			355		355	365	360	36
	Temp(C)			14.0		14.0	14.0	14.0	14.
10	pH			7.9		7.8	7.7	7.7	7.
	O2 ppm			9.9		10.5	9.9	9.6	10.
	Cond.			310		300	320	310	31
	Temp(C)			14.0		14.0	14.0	14.0	14.
Control	pH			7.8		7.8	7.4	7.2	7.
	O2 ppm			9.8		10.9	9.8	9.5	10.
	Cond.			255		255	260	260	26
	Temp(C)			14.0		14.0	14.0	14.0	14.

MISA Trout

TOXICITY TEST REPORT Sample: 03890375

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890375

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.4
	O2 ppm	9.2				10.0
	Cond.	1056				1028
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.8				8.4
	O2 ppm	8.8				10.2
	Cond.	879				850
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.8				8.3
	O2 ppm	8.3				9.9
	Cond.	757				738
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.8				8.5
	O2 ppm	8.0				10.2
	Cond.	657				657
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.5
	O2 ppm	8.1				10.2
	Cond.	610				578
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.5
	O2 ppm	8.0				10.1
	Cond.	588				580
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	8.0				10.2
	Cond.	556				546
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900036

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	2	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900036

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.8				8.3
	O2 ppm	9.7				9.0
	Cond.	1035				1024
	Temp(C)	15.0	15.0	15.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.7				8.7
	Cond.	560				575
	Temp(C)	15.0	15.0	15.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900130

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	4	6	8	8	80
100	0	6	8	10	10	100
65	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900130

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1		8.3		
	O2 ppm	8.4		9.8		
	Cond.	786		791		
	Temp(C)	14.0	14.5	14.5	14.5	14.0
100	pH	8.1	8.2			
	O2 ppm	8.4	9.6			
	Cond.	786	789			
	Temp(C)	14.0	14.5	14.5		
65	pH	8.0				8.2
	O2 ppm	8.3				8.9
	Cond.	698				701
	Temp(C)	14.0	14.5	14.5	14.5	14.0
Control	pH	7.9				8.5
	O2 ppm	8.7				10.1
	Cond.	544				528
	Temp(C)	14.0	14.5	14.5	14.5	14.0
Control	pH	7.9				8.5
	O2 ppm	8.7				10.1
	Cond.	544				532
	Temp(C)	14.0	14.5	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1135

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	2	2	20
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900217

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.3
	O2 ppm	9.1				9.7
	Cond.	840				949
	Temp(C)	15.0	14.5	14.5	14.5	14.5
65	pH	7.9				8.3
	O2 ppm	8.7				9.7
	Cond.	746				810
	Temp(C)	15.0	14.5	14.5	14.5	14.5
40	pH	7.9				8.3
	O2 ppm	8.5				9.7
	Cond.	648				681
	Temp(C)	15.0	14.5	14.5	14.5	14.5
20	pH	7.9				8.4
	O2 ppm	8.1				9.5
	Cond.	603				625
	Temp(C)	15.0	14.5	14.5	14.5	14.5
10	pH	7.9				8.4
	O2 ppm	8.0				8.8
	Cond.	591				589
	Temp(C)	15.0	14.5	14.5	14.5	14.5
5	pH	7.9				8.5
	O2 ppm	8.0				9.7
	Cond.	567				562
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.8				8.4
	O2 ppm	8.1				9.7
	Cond.	544				540
	Temp(C)	15.0	14.5	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03890218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890218

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.4
	O2 ppm	8.8					9.3
	Cond.	572					560
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
10	pH	7.8					8.4
	O2 ppm	8.9					9.2
	Cond.	634					619
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
20	pH	7.8					8.3
	O2 ppm	8.8					9.1
	Cond.	693					680
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
40	pH	7.8					8.4
	O2 ppm	8.9					9.2
	Cond.	800					791
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
65	pH	7.8					8.4
	O2 ppm	9.1					9.2
	Cond.	941					932
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
100	pH	7.9					8.3
	O2 ppm	9.5					9.2
	Cond.	1134					1126
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890287

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	1	10
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890287

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	9.2					9.6
	Cond.	567					570
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
10	pH	7.9					8.4
	O2 ppm	9.1					9.2
	Cond.	654					655
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
20	pH	7.9					8.6
	O2 ppm	9.2					9.5
	Cond.	742					741
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
40	pH	8.0					8.7
	O2 ppm	9.5					9.6
	Cond.	922					921
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
65	pH	8.0					8.5
	O2 ppm	9.4					9.4
	Cond.	1142					1149
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
100	pH	8.1					8.4
	O2 ppm	9.6					9.4
	Cond.	1452					1458
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01890282

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	28:00	49:20	69:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890282

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	28:00	49:20	69:00	96:0
100	pH	7.2			7.7		7.8	7.7	7.9	7.
	O2 ppm	7.9			9.7		10.2	8.6	8.9	10.
	Cond.	1000			1000		980	1000	1000	100
	Temp(C)	14.0			14.0		14.0	14.0	14.0	14.
65	pH				7.8		7.9	7.9	8.0	7.
	O2 ppm				9.6		10.7	9.7	9.1	10.
	Cond.				720		700	760	740	72
	Temp(C)				14.0		14.0	14.0	14.0	14.
40	pH				7.9		8.0	7.9	7.9	8.
	O2 ppm				9.8		10.9	9.8	9.6	10.
	Cond.				560		560	580	560	58
	Temp(C)				14.0		14.0	14.0	14.0	14.
30	pH				7.7		7.9	7.6	7.7	7.
	O2 ppm				9.3		10.3	9.4	9.0	10.
	Cond.				460		480	500	495	49
	Temp(C)				14.0		14.0	14.0	14.0	14.
20	pH				7.8		7.9	7.6	7.8	7.
	O2 ppm				9.8		10.6	10.2	9.5	10.
	Cond.				400		390	415	410	41
	Temp(C)				14.0		14.0	14.0	14.0	14.
10	pH				7.8		7.9	7.8	7.9	7.
	O2 ppm				9.8		10.5	10.0	9.6	10.
	Cond.				325		340	350	340	35
	Temp(C)				14.0		14.0	14.0	14.0	14.
Control	pH				7.6		7.7	7.6	7.7	7.
	O2 ppm				9.7		10.9	9.8	9.5	10.
	Cond.				250		250	265	260	26
	Temp(C)				14.0		14.0	14.0	14.0	14.

MISA Trout

TOXICITY TEST REPORT Sample: 03890376

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890376

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.5
	O2 ppm	9.2				10.1
	Cond.	1255				1251
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	7.9				8.5
	O2 ppm	8.6				10.1
	Cond.	1019				1010
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	7.9				8.5
	O2 ppm	7.9				9.9
	Cond.	832				828
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.8				8.9
	O2 ppm	7.7				10.0
	Cond.	704				693
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.5
	O2 ppm	7.5				10.2
	Cond.	626				619
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.5
	O2 ppm	7.3				10.0
	Cond.	588				586
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	7.5				10.0
	Cond.	558				557
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900037

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900037

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.3
	O2 ppm	9.0				9.0
	Cond.	1547				1563
	Temp(C)	15.0	15.0	15.0	14.0	14.5
Control	pH	7.9				8.5
	O2 ppm	8.7				9.2
	Cond.	560				562
	Temp(C)	15.0	15.0	15.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900127

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900127

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.4
	O2 ppm	9.8				9.9
	Cond.	1190				1186
	Temp(C)	14.0	14.0	14.5	14.5	14.0
100	pH	7.9				8.3
	O2 ppm	9.8				9.8
	Cond.	1190				1196
	Temp(C)	14.0	14.0	14.5	14.5	14.0
Control	pH	7.9				8.4
	O2 ppm	8.7				9.8
	Cond.	541				529
	Temp(C)	14.0	14.0	14.5	14.5	14.0
Control	pH	7.9				8.5
	O2 ppm	8.7				10.0
	Cond.	541				527
	Temp(C)	14.0	14.0	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1140

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900219

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	7.9				8.3
	O2 ppm	9.9				9.7
	Cond.	1354				1356
	Temp(C)	15.0	14.5	14.5	14.5	14.5
100	pH	7.9				8.3
	O2 ppm	9.9				9.5
	Cond.	1354				1356
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.4
	O2 ppm	9.1				9.7
	Cond.	551				546
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.4
	O2 ppm	9.1				9.6
	Cond.	551				546
	Temp(C)	15.0	14.5	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03890219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890219

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	8.6					9.4
	Cond.	572					553
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
10	pH	7.8					8.4
	O2 ppm	8.4					9.2
	Cond.	606					595
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
20	pH	7.8					8.4
	O2 ppm	8.5					9.2
	Cond.	642					630
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
40	pH	8.0					8.4
	O2 ppm	8.7					9.4
	Cond.	709					698
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
65	pH	8.3					8.4
	O2 ppm	8.8					9.3
	Cond.	793					788
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
100	pH	8.6					8.1
	O2 ppm	8.9					7.6
	Cond.	901					913
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890288

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
Control	0	0	0	0	0	1	10
10	0	0	0	0	0	1	10
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890288

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.8					8.5
	O2 ppm	9.2					9.8
	Cond.	562					533
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
10	pH	7.9					8.5
	O2 ppm	9.1					9.3
	Cond.	629					636
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
20	pH	7.9					8.5
	O2 ppm	9.1					9.3
	Cond.	703					705
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
40	pH	8.0					8.4
	O2 ppm	9.0					9.6
	Cond.	848					835
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
65	pH	8.0					8.4
	O2 ppm	9.0					9.5
	Cond.	1021					1011
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0
100	pH	8.2					8.3
	O2 ppm	9.1					9.4
	Cond.	1254					1252
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 01890283

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	28:00	49:20	71:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890283

TEST CONC. %		ELAPSED TIME 00:00	00:30	01:00	02:00	04:00	28:00	49:20	71:00	96:0
100	pH	8.0		8.1	7.7	7.5	7.7	7.		
	O2 ppm	7.0		9.3	9.3	7.8	8.3	8.		
	Cond.	640		620	620	660	640	66		
	Temp(C)	14.0		14.0	14.0	14.0	14.0	14.		
65	pH			8.1	7.8	7.7	7.9	7.		
	O2 ppm			9.7	10.5	9.1	9.3	10.		
	Cond.			500	520	540	520	52		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
40	pH			8.0	7.6	7.4	7.6	7.		
	O2 ppm			9.8	9.6	7.6	7.9	10.		
	Cond.			415	430	440	435	43		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
30	pH			7.9	8.0	7.8	8.0	8.		
	O2 ppm			9.8	10.9	9.7	9.5	10.		
	Cond.			385	390	400	395	39		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
20	pH			7.9	7.6	7.4	7.6	7.		
	O2 ppm			9.8	10.2	8.8	9.0	10.		
	Cond.			330	340	350	345	35		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
10	pH			7.9	7.8	7.7	7.9	7.		
	O2 ppm			9.9	10.8	9.6	9.5	10.		
	Cond.			280	300	310	300	30		
	Temp(C)			14.0	14.0	14.0	14.0	14.		
Control	pH			7.9	7.7	7.5	7.4	7.		
	O2 ppm			9.8	10.3	9.0	8.6	9.		
	Cond.			245	260	270	270	26		
	Temp(C)			14.0	14.0	14.0	14.0	14.		

MISA Trout

TOXICITY TEST REPORT Sample: 03890377

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890377

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.3				8.3
	O2 ppm	8.7				9.8
	Cond.	594				598
	Temp(C)	15.0	14.0	14.0	14.0	14.0
65	pH	8.1				8.4
	O2 ppm	8.3				9.6
	Cond.	588				593
	Temp(C)	15.0	14.0	14.0	14.0	14.0
40	pH	8.1				8.4
	O2 ppm	8.2				9.8
	Cond.	568				578
	Temp(C)	15.0	14.0	14.0	14.0	14.0
20	pH	7.8				8.5
	O2 ppm	7.9				9.5
	Cond.	565				572
	Temp(C)	15.0	14.0	14.0	14.0	14.0
10	pH	7.8				8.4
	O2 ppm	7.9				9.3
	Cond.	560				570
	Temp(C)	15.0	14.0	14.0	14.0	14.0
5	pH	7.8				8.5
	O2 ppm	7.9				9.5
	Cond.	558				567
	Temp(C)	15.0	14.0	14.0	14.0	14.0
Control	pH	7.8				8.5
	O2 ppm	7.4				9.5
	Cond.	557				559
	Temp(C)	15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900038

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	1	6	30
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900038

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.5				8.1
	O2 ppm	8.6				9.1
	Cond.	395				408
	Temp(C)	15.0	15.0	14.0	14.0	14.5
Control	pH	7.8				8.5
	O2 ppm	8.7				9.2
	Cond.	560				576
	Temp(C)	15.0	15.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900128

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900128

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.3				8.3
	O2 ppm	10.3				9.9
	Cond.	2330				2310
	Temp(C)	15.0	14.0	14.5	14.0	14.0
65	pH	8.1				8.3
	O2 ppm	9.8				10.0
	Cond.	1725				1715
	Temp(C)	15.0	14.0	14.5	14.0	14.0
40	pH	8.0				8.5
	O2 ppm	9.4				10.2
	Cond.	1279				1277
	Temp(C)	15.0	14.0	14.5	14.0	14.0
20	pH	8.0				8.5
	O2 ppm	9.0				10.2
	Cond.	918				915
	Temp(C)	15.0	14.0	14.5	14.0	14.0
10	pH	7.9				8.4
	O2 ppm	8.7				9.8
	Cond.	730				724
	Temp(C)	15.0	14.0	14.5	14.0	14.0
5	pH	7.9				8.5
	O2 ppm	8.4				10.1
	Cond.	634				639
	Temp(C)	15.0	14.0	14.5	14.0	14.0
Control	pH	7.9				8.4
	O2 ppm	7.7				10.1
	Cond.	543				523
	Temp(C)	15.0	14.0	14.5	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900220

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	72:00	96:00	TOTAL MORTALITY %
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900220

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00	72:00	96:00
100	pH	8.1				8.3
	O2 ppm	9.9				9.9
	Cond.	1796				1922
	Temp(C)	15.0	14.5	14.5	14.5	14.5
65	pH	8.0				8.4
	O2 ppm	9.6				9.9
	Cond.	1373				1387
	Temp(C)	15.0	14.5	14.5	14.5	14.5
40	pH	7.9				8.4
	O2 ppm	9.4				9.8
	Cond.	1058				1068
	Temp(C)	15.0	14.5	14.5	14.5	14.5
20	pH	7.9				8.4
	O2 ppm	9.5				9.9
	Cond.	802				818
	Temp(C)	15.0	14.5	14.5	14.5	14.5
10	pH	7.9				8.3
	O2 ppm	9.6				9.6
	Cond.	676				686
	Temp(C)	15.0	14.5	14.5	14.5	14.5
5	pH	7.9				8.5
	O2 ppm	9.5				9.9
	Cond.	614				619
	Temp(C)	15.0	14.5	14.5	14.5	14.5
Control	pH	7.9				8.5
	O2 ppm	9.6				9.8
	Cond.	552				549
	Temp(C)	15.0	14.5	14.5	14.5	14.5

COMPANY: Uniroyal Chemical Ltd., Elmira (680108)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

Data for 24 Daphnia magna acute lethality toxicity tests conducted on samples of effluent collected between October 1989 and March 1990 were submitted by Uniroyal Chemical Ltd. of Elmira.

One sample of once through cooling water was toxic to Daphnia with a 48 h LC50 = 33.2%. The remaing three samples submitted by the company had only one neonate die in the 100% concentration in each test. An audit sample collected in December was tested in the Ministry laboratory and was found to be not acutely lethal to Daphnia.

Samples from combined effluent #600 were all toxic to Daphnia. Two samples had LC50s > 100%, and the remaining four samples had LC50s between 35.6 and 65.5%. The Ministry audit sample conducted in December had an LC50 between 60 and 100%.

Three of six samples from combined effluent #900 were nonlethal and the remaining three samples had LC50s > 100%. The Ministry audit sample collected in December was not acutely lethal to Daphnia.

Three of six samples from combined effluent #800 were not acutely lethal to Daphnia and two samples had LC50s > 100%. The sample collected in November had a 48 h LC50 = 66.3%. The Ministry audit sample collected in December was nonlethal.

OT cooling water

OT cooling water

02890284 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890374 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; LC50>100

03900035 sampled: 01/15/90 LC50: 33.2 %
95% fid. limits: 23.0 - 47.8 % slope: 2.7
comments:

03900129 sampled: 02/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900218 sampled: 03/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

OT cooling water

combined effluent

rain gauge

combined effluent

03890217 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890286 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

02890281 sampled: 12/06/89 LC50: 60.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890375 sampled: 12/18/89 LC50: 35.6 %
95% fid. limits: 27.0 - 46.9 % slope: 4.7
comments: Lethal

03900036 sampled: 01/15/90 LC50: 65.5 %
95% fid. limits: 50.3 - 85.1 % slope: 5.5
comments:

03900130 sampled: 02/19/90 LC50: 37.4 %
95% fid. limits: 29.1 - 48.2 % slope: 6.0
comments: Lethal

03900217 sampled: 03/19/90 LC50: 58.4 %
95% fid. limits: 46.2 - 73.8 % slope: 5.7
comments: Lethal

combined effluent

combined effluent

03890218 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890287 sampled: 11/20/89 LC50: 66.3 %
95% fid. limits: 45.0 - 97.4 % slope: 3.2
comments:

02890282 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890376 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; LC50 > 100%

03900037 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03900127 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900219 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890219 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890288 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

02890283 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890377 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; LC50 > 100%

03900038 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900128 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900220 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

intake water

TOXICITY TEST REPORT Sample: 02890284

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : MOE
Sampling Method : grab
Sampled By : Smithson&Perkon
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/07/89 at: 1405

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	24:00	49:35	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890284

TEST CONC. %		ELAPSED TIME 00:00	01:00	24:00	49:35
100	pH	7.9			8.0
	O2 ppm	8.5			7.5
	Cond.	1145			1122
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	8.0			8.1
	O2 ppm	8.7			7.9
	Cond.	822			842
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			8.0
	O2 ppm	8.9			7.7
	Cond.	573			590
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.1			8.0
	O2 ppm	9.0			8.1
	Cond.	444			457
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.1			7.9
	O2 ppm	9.0			8.2
	Cond.	347			362
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.1			7.9
	O2 ppm	9.0			8.0
	Cond.	293			313
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890374

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Lethal; LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890374

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.8		8.2
	O2 ppm	8.2		7.7
	Cond.	1018		1008
	Temp(C)	19.0	19.5	19.0
50	pH	8.0		8.3
	O2 ppm	8.4		7.8
	Cond.	673		675
	Temp(C)	19.0	19.5	19.0
25	pH	8.1		8.3
	O2 ppm	8.5		7.8
	Cond.	492		496
	Temp(C)	19.0	19.5	19.0
13	pH	8.1		8.3
	O2 ppm	8.5		7.8
	Cond.	403		405
	Temp(C)	19.0	19.5	19.0
6	pH	8.3		8.3
	O2 ppm	8.5		7.9
	Cond.	348		352
	Temp(C)	19.0	19.5	19.0
Control	pH	8.3		8.2
	O2 ppm	8.5		8.4
	Cond.	302		304
	Temp(C)	19.0	19.5	19.0

TOXICITY TEST REPORT Sample: 03900035

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1115

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	12	100
50	0	0	7	9	75
25	0	0	0	2	16
13	0	0	1	1	8
6	0	0	1	1	8
Control	0	0	0	0	0

48 Hour LC50 : 33.2 %

95% fid. limits : 23.0 - 47.8 %

Comments :

SLOPE of Mortality Curve : 2.7
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900035

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
100	pH	7.8	7.8		
	O2 ppm	9.1	9.1		
	Cond.	2700	2270		
	Temp(C)	20.0	20.0		
50	pH	7.9			8.2
	O2 ppm	9.0			8.8
	Cond.	1720			1830
	Temp(C)	20.0	20.0	19.0	20.0
25	pH	8.1			8.3
	O2 ppm	8.8			8.8
	Cond.	6140			6230
	Temp(C)	20.0	20.0	19.0	20.0
13	pH	8.2			8.3
	O2 ppm	8.8			8.9
	Cond.	3500			3500
	Temp(C)	20.0	20.0	19.0	20.0
6	pH	8.3			8.3
	O2 ppm	8.8			8.9
	Cond.	1813			1820
	Temp(C)	20.0	20.0	19.0	20.0
Control	pH	8.4			8.3
	O2 ppm	8.8			8.5
	Cond.	296			301
	Temp(C)	20.0	20.0	19.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900129

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1015

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900129

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.1
	O2 ppm	9.0		8.5
	Cond.	1183		1153
	Temp(C)	19.5	20.0	20.0
50	pH	8.2		8.4
	O2 ppm	8.8		8.5
	Cond.	766		760
	Temp(C)	19.5	20.0	20.0
25	pH	8.4		8.4
	O2 ppm	8.7		8.6
	Cond.	548		547
	Temp(C)	19.5	20.0	20.0
13	pH	8.5		8.4
	O2 ppm	8.6		8.6
	Cond.	434		433
	Temp(C)	19.5	20.0	20.0
6	pH	8.6		8.4
	O2 ppm	8.6		8.5
	Cond.	366		365
	Temp(C)	19.5	20.0	20.0
Control	pH	8.6		8.4
	O2 ppm	8.6		8.5
	Cond.	307		310
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900218

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.2		8.7
	Cond.	1016		999
	Temp(C)	20.5	20.0	20.5
50	pH	8.1		8.3
	O2 ppm	8.9		8.6
	Cond.	677		669
	Temp(C)	20.5	20.0	20.5
25	pH	8.1		8.3
	O2 ppm	8.9		8.6
	Cond.	496		494
	Temp(C)	20.5	20.0	20.5
13	pH	8.2		8.3
	O2 ppm	8.7		8.5
	Cond.	405		411
	Temp(C)	20.5	20.0	20.5
6	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	352		359
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.6
	Cond.	302		305
	Temp(C)	20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03890217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	0	0
100	0	0	3	4	33

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890217

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.7			10.1
	Cond.	296			301
	Temp(C)	20.5	20.0	19.5	20.0
6	pH	8.4			8.4
	O2 ppm	8.8			8.6
	Cond.	343			346
	Temp(C)	20.5	20.0	19.5	20.0
13	pH	8.2			8.4
	O2 ppm	8.7			8.8
	Cond.	397			390
	Temp(C)	20.5	20.0	19.5	20.0
25	pH	8.2			8.3
	O2 ppm	8.7			8.9
	Cond.	475			466
	Temp(C)	20.5	20.0	19.5	20.0
50	pH	8.0			8.3
	O2 ppm	8.7			9.0
	Cond.	658			640
	Temp(C)	20.5	20.0	19.5	20.0
100	pH	7.8			8.2
	O2 ppm	9.0			9.3
	Cond.	983			957
	Temp(C)	20.5	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890286

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/22/89 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	2	16

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890286

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.3
	O2 ppm	9.1			9.3
	Cond.	293			312
	Temp(C)	19.5	19.5	20.0	20.0
6	pH	8.4			8.4
	O2 ppm	9.1			8.5
	Cond.	354			353
	Temp(C)	19.5	19.5	20.0	20.0
13	pH	8.3			8.4
	O2 ppm	9.0			8.8
	Cond.	403			412
	Temp(C)	19.5	19.5	20.0	20.0
25	pH	8.2			8.4
	O2 ppm	9.0			8.9
	Cond.	501			509
	Temp(C)	19.5	19.5	20.0	20.0
50	pH	8.1			8.4
	O2 ppm	9.0			9.0
	Cond.	682			691
	Temp(C)	19.5	19.5	20.0	20.0
100	pH	7.9			8.3
	O2 ppm	9.1			9.1
	Cond.	1020			1035
	Temp(C)	19.5	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890281

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE
Sampling Method : grab
Sampled By : B. Trach
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/07/89 at: 1346

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:39	24:39	49:08	TOTAL MORTALITY %
100	0	0	10	11	91
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 60.0 - 100.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : unable to calculate

TOXICITY TEST PARAMETERS

Sample Number: 02890281

TEST CONC. %		ELAPSED TIME 00:00	01:39	24:39	49:08
100	pH	7.5			8.0
	O2 ppm	8.9			8.1
	Cond.	835			865
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.7			8.0
	O2 ppm	9.0			8.4
	Cond.	641			673
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.8			7.9
	O2 ppm	9.1			8.2
	Cond.	495			492
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.8
	O2 ppm	9.1			8.2
	Cond.	405			410
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.7
	O2 ppm	9.2			8.2
	Cond.	339			350
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.3
	O2 ppm	9.0			8.1
	Cond.	281			317
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890375

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	12	12	100
50	0	10	11	91
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 35.6 %

95% fid. limits : 27.0 - 46.9 %

Comments : Lethal

SLOPE of Mortality Curve : 4.7
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890375

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0	8.3	
	O2 ppm	9.0	9.5	
	Cond.	1025	1035	
	Temp(C)	19.0	19.5	
50	pH	8.1		8.4
	O2 ppm	8.6		8.2
	Cond.	682		687
	Temp(C)	19.0	19.5	19.0
25	pH	8.2		8.4
	O2 ppm	8.6		8.3
	Cond.	495		501
	Temp(C)	19.0	19.5	19.0
13	pH	8.2		8.3
	O2 ppm	8.7		8.2
	Cond.	401		408
	Temp(C)	19.0	19.5	19.0
6	pH	8.3		8.4
	O2 ppm	8.6		8.1
	Cond.	348		356
	Temp(C)	19.0	19.5	19.0
Control	pH	8.3		8.4
	O2 ppm	8.5		8.4
	Cond.	302		304
	Temp(C)	19.0	19.5	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900036

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	11	11	91
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 65.5 %

95% fid. limits : 50.3 - 85.1 %

Comments :

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900036

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.2
	O2 ppm	9.2		8.7
	Cond.	1023		1007
	Temp(C)	20.0	19.0	20.0
50	pH	8.1		8.3
	O2 ppm	8.9		8.7
	Cond.	687		679
	Temp(C)	20.0	19.0	20.0
25	pH	8.2		8.4
	O2 ppm	8.7		8.7
	Cond.	505		498
	Temp(C)	20.0	19.0	20.0
13	pH	8.3		8.4
	O2 ppm	8.7		8.7
	Cond.	408		406
	Temp(C)	20.0	19.0	20.0
6	pH	8.3		8.4
	O2 ppm	8.8		8.6
	Cond.	356		352
	Temp(C)	20.0	19.0	20.0
Control	pH	8.4		8.3
	O2 ppm	8.8		8.3
	Cond.	296		293
	Temp(C)	20.0	19.0	20.0

TOXICITY TEST REPORT Sample: 03900130

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	6	12	100
50	0	5	9	75
25	0	0	2	16
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 37.4 %

95% fid. limits : 29.1 - 48.2 %

Comments : Lethal

SLOPE of Mortality Curve : 6.0
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900130

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.3
	O2 ppm	8.6		8.3
	Cond.	760		760
	Temp(C)	19.5	20.0	20.0
50	pH	8.3		8.3
	O2 ppm	8.5		8.4
	Cond.	543		542
	Temp(C)	19.5	20.0	20.0
25	pH	8.4		8.4
	O2 ppm	8.5		8.5
	Cond.	427		426
	Temp(C)	19.5	20.0	20.0
13	pH	8.5		8.4
	O2 ppm	8.5		8.6
	Cond.	374		374
	Temp(C)	19.5	20.0	20.0
6	pH	8.5		8.4
	O2 ppm	8.6		8.6
	Cond.	341		338
	Temp(C)	19.5	20.0	20.0
Control	pH	8.6		8.4
	O2 ppm	8.6		8.6
	Cond.	307		309
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	11	12	100
50	0	2	3	25
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 58.4 %

95% fid. limits : 46.2 - 73.8 %

Comments : Lethal

SLOPE of Mortality Curve : 5.7
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900217

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.0
	O2 ppm	9.1		8.5
	Cond.	971		938
	Temp(C)	20.5	20.0	20.5
50	pH	8.0		8.3
	O2 ppm	8.9		8.5
	Cond.	654		647
	Temp(C)	20.5	20.0	20.5
25	pH	8.1		8.3
	O2 ppm	8.8		8.4
	Cond.	487		483
	Temp(C)	20.5	20.0	20.5
13	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	400		398
	Temp(C)	20.5	20.0	20.5
6	pH	8.2		8.3
	O2 ppm	8.7		8.4
	Cond.	355		351
	Temp(C)	20.5	20.0	20.5
Control	pH	8.3		8.2
	O2 ppm	8.5		8.6
	Cond.	302		306
	Temp(C)	20.5	20.0	20.5

TOXICITY TEST REPORT Sample: 03890218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1445

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	2	2	16
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890218

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.7			10.2
	Cond.	296			302
	Temp(C)	20.5	20.0	19.5	20.0
6	pH	8.3			8.4
	O2 ppm	8.6			9.0
	Cond.	355			355
	Temp(C)	20.5	20.0	19.5	20.0
13	pH	8.3			8.4
	O2 ppm	8.5			9.1
	Cond.	415			404
	Temp(C)	20.5	20.0	19.5	20.0
25	pH	8.2			8.3
	O2 ppm	8.5			9.1
	Cond.	513			499
	Temp(C)	20.5	20.0	19.5	20.0
50	pH	8.0			8.3
	O2 ppm	8.6			9.0
	Cond.	719			700
	Temp(C)	20.5	20.0	19.5	20.0
100	pH	7.9			8.2
	O2 ppm	8.7			8.9
	Cond.	1116			1077
	Temp(C)	20.5	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890287

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/22/89 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
25	0	0	0	0	0	1	8
50	0	0	0	0	0	0	0
100	0	0	1	1	6	10	83

48 Hour LC50 : 66.3 %

95% fid. limits : 45.0 - 97.4 %

Comments :

SLOPE of Mortality Curve : 3.2
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890287

TEST CONC. %		ELAPSED TIME 00:00	01:00	02:00	04:00	24:00	48:00
Control	pH	8.5					8.4
	O2 ppm	9.1					9.2
	Cond.	293					304
	Temp(C)	19.5	19.5	19.5	19.5	20.0	20.0
6	pH	8.5					8.4
	O2 ppm	8.9					9.0
	Cond.	369					375
	Temp(C)	19.5	19.5	19.5	19.5	20.0	20.0
13	pH	8.4					8.4
	O2 ppm	8.9					9.0
	Cond.	452					456
	Temp(C)	19.5	19.5	19.5	19.5	20.0	20.0
25	pH	8.3					8.4
	O2 ppm	9.0					8.9
	Cond.	592					595
	Temp(C)	19.5	19.5	19.5	19.5	20.0	20.0
50	pH	8.2					8.4
	O2 ppm	9.3					8.8
	Cond.	879					873
	Temp(C)	19.5	19.5	19.5	19.5	20.0	20.0
100	pH	8.1					8.4
	O2 ppm	9.8					8.7
	Cond.	1415					1381
	Temp(C)	19.5	19.5	19.5	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890282

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : MOE
Sampling Method : grab
Sampled By : Perkon&Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/07/89 at: 1357

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	00:43	24:00	49:28	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890282

TEST CONC. %		ELAPSED TIME 00:00	00:43	24:00	49:28
100	pH	7.8			8.1
	O2 ppm	8.2			8.0
	Cond.	1197			1216
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.9			8.0
	O2 ppm	8.6			7.9
	Cond.	831			867
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.0			7.9
	O2 ppm	8.9			8.0
	Cond.	584			601
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.0			7.9
	O2 ppm	9.0			8.3
	Cond.	442			454
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.1			7.8
	O2 ppm	9.1			8.1
	Cond.	357			365
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.1			7.9
	O2 ppm	9.1			8.3
	Cond.	294			318
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890376

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1520

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	1	1	8
50	0	0	0	0
25	0	0	1	8
13	0	0	0	0
6	0	0	1	8
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Lethal; LC50 > 100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890376

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.4
	O2 ppm	8.8		8.4
	Cond.	1236		1241
	Temp(C)	19.0	19.5	19.0
50	pH	8.1		8.4
	O2 ppm	8.6		8.4
	Cond.	783		785
	Temp(C)	19.0	19.5	19.0
25	pH	8.2		8.4
	O2 ppm	8.6		8.5
	Cond.	547		552
	Temp(C)	19.0	19.5	19.0
13	pH	8.1		8.4
	O2 ppm	8.5		8.6
	Cond.	432		434
	Temp(C)	19.0	19.5	19.0
6	pH	8.3		8.4
	O2 ppm	8.5		8.8
	Cond.	359		366
	Temp(C)	19.0	19.5	19.0
Control	pH	8.3		8.4
	O2 ppm	8.5		8.8
	Cond.	302		306
	Temp(C)	19.0	19.5	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900037

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900037

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	7.9		8.2
	O2 ppm	9.2		8.4
	Cond.	1515		1497
	Temp(C)	20.0	19.0	20.0
50	pH	8.1		8.3
	O2 ppm	8.9		8.5
	Cond.	939		911
	Temp(C)	20.0	19.0	20.0
25	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	628		609
	Temp(C)	20.0	19.0	20.0
13	pH	8.2		8.3
	O2 ppm	8.7		8.5
	Cond.	472		460
	Temp(C)	20.0	19.0	20.0
6	pH	8.3		8.3
	O2 ppm	8.7		8.5
	Cond.	381		374
	Temp(C)	20.0	19.0	20.0
Control	pH	8.4		8.3
	O2 ppm	8.8		8.5
	Cond.	296		293
	Temp(C)	20.0	19.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900127

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 950

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900127

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.3
	O2 ppm	8.8		8.4
	Cond.	1166		1153
	Temp(C)	19.5	20.0	20.0
50	pH	8.2		8.3
	O2 ppm	8.8		8.5
	Cond.	761		754
	Temp(C)	19.5	20.0	20.0
25	pH	8.4		8.4
	O2 ppm	8.7		8.6
	Cond.	535		533
	Temp(C)	19.5	20.0	20.0
13	pH	8.5		8.4
	O2 ppm	8.6		8.5
	Cond.	427		426
	Temp(C)	19.5	20.0	20.0
6	pH	8.6		8.4
	O2 ppm	8.6		8.4
	Cond.	365		365
	Temp(C)	19.5	20.0	20.0
Control	pH	8.6		8.4
	O2 ppm	8.6		8.3
	Cond.	307		310
	Temp(C)	19.5	20.0	20.0

TOXICITY TEST REPORT Sample: 03900219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1315

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900219

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.0		8.2
	O2 ppm	9.3		8.6
	Cond.	1321		1316
	Temp(C)	20.5	20.0	20.0
50	pH	8.1		8.3
	O2 ppm	9.0		8.6
	Cond.	819		817
	Temp(C)	20.5	20.0	20.0
25	pH	8.2		8.3
	O2 ppm	8.8		8.7
	Cond.	566		568
	Temp(C)	20.5	20.0	20.0
13	pH	8.2		8.3
	O2 ppm	8.7		8.7
	Cond.	437		443
	Temp(C)	20.5	20.0	20.0
6	pH	8.2		8.3
	O2 ppm	8.8		8.7
	Cond.	365		369
	Temp(C)	20.5	20.0	20.0
Control	pH	8.3		8.2
	O2 ppm	8.5		8.7
	Cond.	302		304
	Temp(C)	20.5	20.0	20.0

TOXICITY TEST REPORT Sample: 03890219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	1	2	16
25	0	0	0	2	16
50	0	0	0	0	0
100	0	0	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890219

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.4			8.3
	O2 ppm	8.7			10.2
	Cond.	296			300
	Temp(C)	20.5	20.0	19.5	20.0
6	pH	8.4			8.4
	O2 ppm	8.5			9.4
	Cond.	333			347
	Temp(C)	20.5	20.0	19.5	20.0
13	pH	8.4			8.3
	O2 ppm	8.4			9.4
	Cond.	380			381
	Temp(C)	20.5	20.0	19.5	20.0
25	pH	8.5			8.3
	O2 ppm	8.3			9.1
	Cond.	450			450
	Temp(C)	20.5	20.0	19.5	20.0
50	pH	8.5			8.3
	O2 ppm	7.9			8.6
	Cond.	598			602
	Temp(C)	20.5	20.0	19.5	20.0
100	pH	8.5			8.3
	O2 ppm	7.1			7.5
	Cond.	873			887
	Temp(C)	20.5	20.0	19.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890288

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/22/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	04:00	24:00	48:00	TOTAL MORTALITY %
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890288

TEST CONC. %		ELAPSED TIME 00:00	04:00	24:00	48:00
Control	pH	8.5			8.4
	O2 ppm	9.1			9.3
	Cond.	293			310
	Temp(C)	19.5	19.5	20.0	
6	pH	8.4			8.4
	O2 ppm	8.8			8.3
	Cond.	362			364
	Temp(C)	19.5	19.5	20.0	20.0
13	pH	8.4			8.4
	O2 ppm	8.9			8.5
	Cond.	423			435
	Temp(C)	19.5	19.5	20.0	20.0
25	pH	8.4			8.4
	O2 ppm	8.8			8.7
	Cond.	545			561
	Temp(C)	19.5	19.5	20.0	20.0
50	pH	8.3			8.4
	O2 ppm	8.5			8.8
	Cond.	790			803
	Temp(C)	19.0	19.5	20.0	20.0
100	pH	8.2			8.2
	O2 ppm	8.0			8.5
	Cond.	1242			1220
	Temp(C)	19.5	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890283

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : MOE
Sampling Method : grab
Sampled By : Smithson&Perkon
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/07/89 at: 1532

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	01:38	24:00	47:38	TOTAL MORTALITY %
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve :
LC50 Calculated By : none

TOXICITY TEST PARAMETERS

Sample Number: 02890283

TEST CONC. %		ELAPSED TIME 00:00	01:38	24:00	47:38
100	pH	8.2			8.2
	O2 ppm	7.3			8.0
	Cond.	756			776
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	8.2			8.1
	O2 ppm	8.3			7.8
	Cond.	578			610
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	8.2			7.9
	O2 ppm	8.6			7.8
	Cond.	446			465
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	8.2			7.8
	O2 ppm	8.9			7.9
	Cond.	375			391
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.2			7.8
	O2 ppm	9.1			8.2
	Cond.	330			342
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.1			7.7
	O2 ppm	9.1			8.1
	Cond.	299			311
	Temp(C)	20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890377

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : GRab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Lethal; LC50 > 100%

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890377

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.4		8.3
	O2 ppm	8.3		8.4
	Cond.	570		578
	Temp(C)	19.0	19.5	19.5
50	pH	8.4		8.3
	O2 ppm	8.3		8.5
	Cond.	438		442
	Temp(C)	19.0	19.5	19.5
25	pH	8.4		8.3
	O2 ppm	8.5		8.6
	Cond.	371		374
	Temp(C)	19.0	19.5	19.5
13	pH	8.3		8.3
	O2 ppm	8.5		8.6
	Cond.	338		340
	Temp(C)	19.0	19.5	19.5
6	pH	8.3		8.3
	O2 ppm	8.5		8.6
	Cond.	318		320
	Temp(C)	19.0	19.5	19.5
Control	pH	8.3		8.3
	O2 ppm	8.5		8.7
	Cond.	302		308
	Temp(C)	19.0	19.5	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900038

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900038

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.5		8.0
	O2 ppm	8.6		8.2
	Cond.	387		394
	Temp(C)	20.0	19.0	20.0
50	pH	8.4		8.2
	O2 ppm	8.7		8.5
	Cond.	347		346
	Temp(C)	20.0	19.0	20.0
25	pH	8.4		8.3
	O2 ppm	8.6		8.6
	Cond.	326		322
	Temp(C)	20.0	19.0	20.0
13	pH	8.3		8.3
	O2 ppm	8.7		8.6
	Cond.	316		311
	Temp(C)	20.0	19.0	20.0
6	pH	8.4		8.3
	O2 ppm	8.7		8.6
	Cond.	310		304
	Temp(C)	20.0	19.0	20.0
Control	pH	8.4		8.3
	O2 ppm	8.8		8.6
	Cond.	296		292
	Temp(C)	20.0	19.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900128

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900128

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.3		8.3
	O2 ppm	9.1		8.3
	Cond.	2270		2260
	Temp(C)	19.5	20.0	20.0
50	pH	8.4		8.3
	O2 ppm	9.0		8.4
	Cond.	1332		1325
	Temp(C)	19.5	20.0	20.0
25	pH	8.5		8.3
	O2 ppm	8.7		8.5
	Cond.	815		814
	Temp(C)	19.5	20.0	20.0
13	pH	9.6		8.4
	O2 ppm	8.6		8.6
	Cond.	583		579
	Temp(C)	19.5	20.0	20.0
6	pH	8.6		8.4
	O2 ppm	8.5		8.6
	Cond.	439		435
	Temp(C)	19.5	20.0	20.0
Control	pH	8.6		8.4
	O2 ppm	8.6		8.4
	Cond.	307		310
	Temp(C)	19.5	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900220

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1325

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC. %	ELAPSED TIME 00:00	24:00	48:00	TOTAL MORTALITY %
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900220

TEST CONC. %		ELAPSED TIME 00:00	24:00	48:00
100	pH	8.1		8.2
	O2 ppm	9.2		8.7
	Cond.	1735		1721
	Temp(C)	20.5	20.0	20.0
50	pH	8.2		8.3
	O2 ppm	8.9		8.7
	Cond.	1036		1034
	Temp(C)	20.5	20.0	20.0
25	pH	8.2		8.3
	O2 ppm	8.9		8.7
	Cond.	680		681
	Temp(C)	20.5	20.0	20.0
13	pH	8.2		8.3
	O2 ppm	8.8		8.7
	Cond.	494		503
	Temp(C)	20.5	20.0	20.0
6	pH	8.2		8.3
	O2 ppm	8.8		8.7
	Cond.	392		406
	Temp(C)	20.5	20.0	20.0
Control	pH	8.3		8.3
	O2 ppm	8.5		8.6
	Cond.	302		304
	Temp(C)	20.5	20.0	20.0